



# AFRICAN AEROSPACE

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## Time to turn the spotlight on gender diversity

Since its inception, *African Aerospace* has championed the cause of gender equality in aviation. Many of our industry's biggest problems could be resolved by ensuring greater diversity and inclusion across the global aviation industry.

Africa, whether by culture or just plain common sense, has already embraced this with more women leaders in our industry than any other continent in the world.

And so, it was entirely fitting that it was South Africa's Civil Aviation Authority, under the very capable leadership of Ms Poppy Khoza, that joined with the International Civil Aviation Organization (ICAO), headed by its secretary general, Dr Fang Liu, to deliver the first-ever Global Aviation Gender Summit, in Cape Town.

Under the heading 'Time is Now', governments, regulators and industry sectors heard why now is the time for concrete actions and commitments for gender equality in global aviation.

Dr Liu, in her keynote opening address, said: "As a woman who has spent virtually her entire career in the service of international civil aviation, this is truly an exciting moment for me. Aviation already contributes greatly to peace, prosperity, and sustainable development all over the world, but it can do even more for our society, and especially for women."

It was a message for all nations – and received international backing.

The UK's CAAi managing director, Maria Rueda, said: "I hope we can see the day when we don't have to think of someone as a man or a woman, but just as an aviation professional, encouraging the next generation of aviation professionals."

But there was a warning to airlines, airports, and government that time should not be allowed to pass without positive action.

Executive director of UN Women, Phumzile



From the left: Ms Poppy Khoza, Director of Civil Aviation, SACAA Ms. Sindiswie Chikunga, Deputy Minister of Transport, South Africa, Dr Fang Liu, Secretary General of ICAO at the Cape Town summit.

Mlambo-Ngcuka, called for "special measures" to be put in place to transform the aviation industry. "There is something that needs to be done in terms of government policy and the enforcement thereof," she said.

"The industry, in all its formations, needs to work together, with the government to solve the problem. Public policy must force them to each produce a percentage of the required skills for the industry, and within that there must also be a set percentage for women."

If we look at airline pilots, there is a clear mismatch. Indian carrier, IndiGo, has more than 13% of its pilots as women – and that is the largest ratio in the world. The US (famous for its pioneering aviatrixes) and the UK both have fewer than 5%.

Now is the time for industry associations, such as ICAO, the African Airlines Association (AFRAA), and the Airlines Association of Southern Africa (AASA) to poll their members and give us an accurate number on their gender diversity and let us turn the spotlight on those numbers to make sure this great summit leads to action and not just words.

Safe landings,  
Alan Peaford, Editor-in-Chief

**COVER: South Africa's defence minister Nosiviwe Mapisa-Nqakula at AAD. PICTURE: BILLYPIX**

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## Eve-of-show drama as helicopter crashes

This is the dramatic moment when a South African Oryx helicopter crashed into the ground on landing during an eve-of-show demonstration at the Roodewal Weapons Range outside Polokwane in September.

The pilot was praised for his quick actions to neutralise the risk of fire and injury as the helicopter suddenly dropped after what eyewitnesses described as a stable approach.

The tail boom dislodged and swung 90

degrees on the impact. Soldiers from the South African Army quickly evacuated the stricken aircraft, assuming battle positions, as the pilot shut down the engines.

The event at the range was to demonstrate the country's defence force capabilities to an invited audience ahead of the AAD show. It included live firing and flight displays with pyrotechnics.

Air Force Colonel, Eugene Motati, praised

the crew and the military passengers. "We are very proud the way our forces displayed professionalism. They were able to act with speed to mitigate what could have been a disastrous ending. While we regret the loss and damage to the aircraft, we are very thankful that we didn't sustain any human losses or serious injuries," he said.

A board of inquiry has been established to investigate the incident.



## Magnificent 7000 gets EASA approval

The Rolls-Royce Trent 7000 engine has been certificated by EASA paving the way for the sole powerplant for the re-engined Airbus A330neo to join the assembly line at Toulouse. Among the early recipients of the A330neo is Air Mauritius, already an A350 operator.

Rolls received the certification at the Farnborough air show in July. The A330-900neo took off for its first flight in October 2017, and was due to enter service with launch operator TAP Portugal by the end of September.

The 72,000lb thrust engine combines architecture from the Boeing 787-powering Trent

1000 TEN with technology from the A350's Trent XWB.

## Green Africa milestone

Green Africa Airways completed its series A round of financing in June with Kuramo Capital, a pan-African independent investment management group based in New York with additional offices in Lagos and Nairobi.

As part of the new investment, Green Africa Airways has also formed an advisory board of senior industry leaders led by Tom Horton, former CEO and chairman of American Airlines and former chairman of the Oneworld Alliance; William Shaw, founder and former CEO of

VivaColombia (now Viva Air); and Virasb Vahidi, former CCO of American Airlines.

## Sahara signs with Embraer

Sahara Africa Aviation has signed a multi-year pool programme agreement for spare parts and support covering more than 500 components for its two recently acquired Embraer ERJ 145 jets.

"Sahara Aviation has, for many years, enjoyed a fruitful relationship with Embraer. As the needs of our clients grew in wanting bigger capacity aircraft, we had no hesitation in turning to Embraer for our ERJ 145 acquisitions," said Trevor Brotherton, Sahara Aviation's MD.



Ethiopian Airlines CEO Tewolde GebreMariam and Chadian president Idriss Deby Itno celebrate the agreement.

## Chad carrier set for launch

The new Chad national carrier is due to begin operations this month. Ethiopian Airlines finalised agreements with the Government of Chad for the launch of the national carrier in August.

Ethiopian has 49% stake in the joint venture while the Government of Chad retains 51%.

Tewolde GebreMariam, Group CEO of Ethiopian Airlines said: "The new Chad national carrier will serve as a strong hub in Central Africa availing domestic, regional and eventually international connectivity."



## Ethiopian and DHL form joint venture

Ethiopian Airlines and DHL Global Forwarding have signed an agreement to form a joint venture company – DHL-Ethiopian Airlines Logistics Services – to build the leading cargo logistics provider JV company in Africa.

“The company will be able to provide a scalable and durable logistics infrastructure to safely handle the sensitive needs of its core industries,” said Amadou Diallo, CEO, DHL Global Forwarding Middle East and Africa.

Tewelde GebreMariam, CEO, Ethiopian Airlines Group, added: “We have had a long-standing and mutually rewarding partnership with DHL, and with this JV we aim to make the country a logistics hub for Africa.”

## SA Express cleared for take-off

The South African Civil Aviation Authority (SACAA) has reinstated both SA Express’ (SAX) aircraft maintenance organisation (AMO) certificate and its air operator’s certificate (AOC).

The move allows the regional carrier to restart commercial operations as an airline.

However, according to the regulator, it is limited to the two aircraft for which certificates of airworthiness have been secured.

The airline was suspended on May 24 when its operating licences and the certificates of airworthiness for nine of its 21 aircraft were revoked by the SACAA after an audit of the airline and its maintenance organisation uncovered “severe cases of non-compliance that posed serious safety risks”.



Celebrating the launch of Paramount South Africa: Ivor Ichikowitz (left) with Minister of Defence (centre), Nosiviwe Mapisa-Nqakula and Matthew Phosa right.

## Paramount South Africa launched with a hug

A new era in South Africa’s defence industry was opened at the AAD show in Pretoria when the Paramount Group announced the launch of Paramount South Africa, a transformed black-owned enterprise designed to provide the future capability requirements of the country’s defence, police, border and peacekeeping forces, while driving the resurgence of local industry.

Minister of Defence, Nosiviwe Mapisa-Nqakula, hugged Dr Mathew Phosa, the appointed new chairman of the business,

which has the primary objective of building an industrial entity through strategic acquisitions and business development to provide the capability that is required by South Africa.

Phosa said: “Change can no longer wait. The local industry can no longer indulge itself by doing the same things over again and expecting a different outcome. Paramount South Africa will be embarking on an investment and acquisitions drive, and technology transfer, that will recharge South Africa’s defence industry.”



## Major Blue is Mahindra Airvan 10 first customer

The world’s first customer for the recently FAA-certified Mahindra Airvan 10 is Botswana’s Major Blue Air.

The 10-seat Airvan 10 is powered by a single turboprop engine producing 4350shp. It’s the big brother of the avgas-engined eight-seat Airvan 8, already a favourite with Botswana’s tourist flight operators, including Major Blue Air.

Maun Airport has 31 Airvans already based there and Mahindra is setting up a parts depot for the aircraft. Aviation Craft is the local dealer.

SP Shukla, group president, aerospace, defence and steel for the Mahindra Group and chairman of Mahindra Aerospace, said: “Eventually, Airvan proved to be the most suitable aircraft for their tourism operations and scenic flights across the country. We are delighted that Maun in Botswana is among Airvan’s top markets. It is a matter of immense pride to see the first Airvan 10 being introduced in this important market.”

## Bell 505 in the African skies

South Africa’s National Airways Corporation (NAC) unveiled Bell’s newest commercial aircraft – the Bell 505 Jet Ranger X – to the African market at its Lanseria Airport facility near Johannesburg.

The company revealed a pair of Bell 505 Jet Ranger X helicopters delivered to a couple, who are both pilots.

“The spacious cabin and advanced systems were the features which seemed to attract the most comments. We look forward to seeing many more in the southern African skies in the near future,” said Gary Phillips, NAC’s executive director, helicopter division.

## Can-do CANSO

African air navigation service providers (ANSPs) and aviation industry stakeholders at the Civil Air Navigation Services Organisation (CANSO) Africa conference

agreed to create and support an air traffic flow management (ATFM) and collaborative decision-making (CDM) initiative.

Hamza Johari, director general, Tanzania Civil Aviation Authority and chair Africa CANSO said: “Air traffic across Africa is increasing rapidly. Effective ATFM and CDM are key enablers, and we are committed to establishing the processes and procedures required for efficient implementation.”

## Oman Air eyes Africa

Oman Air – which already flies to Cairo, Nairobi, Zanzibar, Dar es Salaam and Casablanca – is reviewing its route network with a view to further expanding its destinations in Africa. The airline said: “With the established Sudan diaspora in Oman, Khartoum is a strong favourite to be among the new additions to Oman Air’s African network.”



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## Airbus rotary safety plan

Airbus is taking a key step in promoting helicopter operational safety in Southern and Eastern Africa - a region which is home to operators of more than 300 light and medium Airbus helicopters.

The recently-launched campaign, which involves a roadshow of events, aims to alert customers to various operational factors in order to enhance the global helicopter safety record and reduce the number of helicopter accidents attributable to them.

Seminars and workshops have already been held in South Africa, Botswana, and Kenya, with additional events planned for the remainder of the year.

## Safer African skies

The International Air Transport Association (IATA) and the Rwanda Civil Aviation Authority (RCAA) have signed a memorandum of understanding (MoU) to partner for the improvement of aviation safety.

Under the MoU, the parties will work together to establish a framework for using the IATA operational safety audit (IOSA) to complement Rwanda's safety oversight.

"Rwanda CAA is committed to improving African aviation safety. Our partnership with IATA will help us to do that by taking greater advantage of IOSA in our safety oversight programme," said Silas Udahemuka, director general RCAA.

## CANSO conference has safety focus

CANSO, the Civil Air Navigation Services Organisation, has identified key areas of focus for improving the safety, efficiency and effectiveness of air traffic management



## First African 'civil' C295 to operate from Kenya

**DAC Aviation International has received the first Airbus C295 to be used on the civil registry in Africa. The Nairobi-based company will utilise the aircraft for humanitarian missions in north-east and central Africa.**

**The highly versatile aircraft is able to perform many different missions including**

**transport, medical evacuation, maritime patrol and surveillance, signals intelligence, and airborne early warning.**

**To date, 206 C295s have been ordered by customers around the world. The aircraft is operating in Africa in Algeria, Angola, Ghana, Egypt and Mali.**

(ATM) in Africa and paving the way for a seamless sky.

At its Africa Conference CANSO deputy director general, Simon Hocquard, said: "Partnership and collaboration are key to improving ATM safety, operations and boosting connectivity. This includes significant collaborative effort to improve the safety standards of ATM operations across the region, finding better systems and procedures for working together, and leveraging the knowledge and expertise of the global CANSO network to discover the latest tools and better understand ATM requirements."

## Cairo Pearl Lounge

National Aviation Services has inaugurated its Pearl Lounge at Cairo International Airport. The new lounge, located at Terminal 2 departures, includes complementary Wi-Fi, tablets, charging power points, food, beverages, comfortable seating and a kids' entertainment area.



**Ephraim Bagenda (third right) with, from left, Airbus vice president sales Africa, Hadi Akoum; Airbus chief commercial officer, Eric Schulz; and Rolls-Royce Civil Aerospace senior vice president customers, John Kelly.**

## Uganda Airlines signs for two A330-800neos

**Uganda Airlines has signed a memorandum of understanding (MoU) for two A330-800neos – the new version of the best-selling A330 wide-body airliner featuring new wings, power from Rolls-Royce's latest-generation Trent 7000 engines, new systems, and a new airspace cabin interior. Uganda Airlines plans to use the aircraft to build its international long-haul network. The A330-800neos will feature a three-class cabin layout comprising 20 business, 28 premium economy and 213 economy seats.**

**"This agreement demonstrates our ambition for economic growth supported by a robust aviation industry. The A330-800neo combines low operating costs, long-range flying capability and high levels of comfort and we are looking forward to launching operations and offering our customers best-in-class service" said Ephraim Bagenda, CEO of Uganda Airlines.**

**■ The Uganda National Airlines Company (UNAC), has signed a firm order with Bombardier for four new CRJ900 regional jets. Based on the list price, the order is valued at approximately \$190 million.**

## Ethiopian receives largest 737 MAX

Ethiopian Airlines received Africa's largest 737 MAX aircraft in July.

The B737 MAX 8 features the new Boeing sky interior, highlighted by modern sculpted sidewalls and window reveals, plus LED lighting that enhances the sense of spaciousness, ultimately boosting customers' experience.

Ethiopian Airlines Group CEO, Tewolde GebreMariam, said: "This latest acquisition is an affirmation of our continuing pioneering role in African aviation and the successful implementation of our fast, profitable and sustainable growth plan, Vision 2025."

## Air Peace grows its fleet with 737 Max 8

Nigeria's Air Peace has ordered ten Boeing 737 MAX 8 airplanes to meet its growth ambition. It already operates Boeing 737s on regional routes in Central and West Africa and recently added Boeing 777s to its fleet.

Allen Onyema, chairman and CEO of the airline said "The fuel efficiency and superior operating economics of the 737 MAX will ensure that the aircraft will play a major role in growing our business in the years to come."

The MAX 8 can fly up to 3,850 nautical miles (7,130 kilometers) with its CFM International LEAP-1B engine and Advanced Technology winglets.

## Comair accredited

South Africa's Comair Flight Services (CFS) has been accredited with the International Business Aviation Council (IBAC) international standard for business aircraft operations (IS-BAO) stage one certificate.

## Moving forward together

The four major airlines in the Indian Ocean – Air Austral, Air Madagascar, Air Mauritius and Air Seychelles – have recently undergone significant changes in management and governance.

The four CEOs have confirmed their willingness to work together under the umbrella of an alliance. The work programme remains unchanged, namely the search for attractive tariff formulas, the connectivity of programmes and the optimisation of partnerships.

Discussions are under way with other African airlines, including SAA, Kenya Airways and RwandAir, for the establishment of the first African Alliance.

## ExecuJet opens Seychelles FBO

ExecuJet has opened an FBO facility at Seychelles International Airport on the island of Mahé. It will be operated by ExecuJet in partnership with Euro Aviation Limited.

The new facility will be available to all categories of general aviation and will offer full FBO and ground-handling services, including aircraft parking and fuel coordination; VIP passenger and crew support services; flight planning and flight permit assistance and co-ordination.

Discreet and secure

## Lion cub relocation from Paris is a roaring success

**Air Partner assisted in the successful relocation of a lion on behalf of the Born Free Foundation in July.**

The lion cub 'King' was discovered in a Paris apartment in October last year, where he had been kept illegally as an exotic pet and neglected by his owner. Since then, he had been living temporarily at Natuurhulpcentrum Rescue Centre in Belgium.

He was recently found a new permanent home at Born Free's Big Cat Rescue Centre at Shamwari Private Game Reserve in South Africa. Air Partner was tasked with transporting him from Johannesburg to Port Elizabeth on a chartered aircraft, from where he made the hour-long journey to Shamwari.

Maggie Balaskas, animal rescue and care manager at the Born Free Foundation, said: "We were delighted that Air Partner was able to help us with this part of King's life-changing journey. He is already settling into his new home."



airside transfers will be provided to and from the aircraft at the domestic and international terminals.

## Ewa Air commits for ATR 72-600s

Mayotte-based carrier, Ewa Air, has signed an MoU (memorandum of understanding) for the acquisition of two ATR 72-600s. The latest-generation turboprops will replace and upgrade two currently-leased ATR 72-500s.

## Digital platform upgraded

Air Seychelles has upgraded its website, [airseychelles.com](http://airseychelles.com).

The enhanced digital platform can now automatically adapt to the layout and screen format of any mobile phone or tablet device, offering a more personalised experience when creating and managing bookings.

## ATR72-600s for Botswana

Air Botswana has signed a firm order for two ATR 72-600s. Having operated ATR-500 series aircraft since 1996, the Botswanan national flag-carrier will now upgrade and restructure its fleet with the addition of the latest generation turboprop aircraft.

## 'Shark' tours Africa

Embraer's new generation aircraft, the E190-E2, visited Africa in July for a continental tour.

The aircraft, which had been painted up to look like a shark for this year's Farnborough International Airshow, visited six countries – Algiers, Morocco, Kenya, Ghana, Mauritius and South Africa.

## JetWave debut

Honeywell International has confirmed the first installations of its high-speed JetWave satellite communications hardware in Africa.

ExecuJet South Africa has installed Honeywell's

JetWave hardware on Global Express and Challenger 604 aircraft in Johannesburg, delivering access to the Ka-band satellite communications network provided by Inmarsat through its Jet ConneX service.

Honeywell said this gives passengers and flight operators access to reliable, high-speed Wi-Fi in the sky.

## Tasty move

Kenya Airways has revamped its catering service as part of the airline's strategy to review and enhance its service, with the aim of making it "more relevant, authentic and true to its brand proposition".

## ExecuJet welcomes the first Pilatus PC-24 to Africa



ExecuJet, part of the Luxaviation Group, will be the first business aviation company to operate and manage a Pilatus PC-24 Super Versatile Jet in Africa.

The aircraft will be based in South Africa at Cape Town International Airport. ExecuJet will be responsible for its day-to-day management and operations on behalf of the aircraft owner.

The PC-24, developed by Swiss original equipment manufacturer Pilatus, has been dubbed the Super Versatile Jet due to its flexibility and ability to operate in and out of very short and unpaved runways.

Gavin Kiggen, vice president Africa, ExecuJet, said: "Africa is the perfect environment for the PC-24, with its testing terrain and challenging runways, and we are honoured to be the first business aviation operator to manage the aircraft in the region."



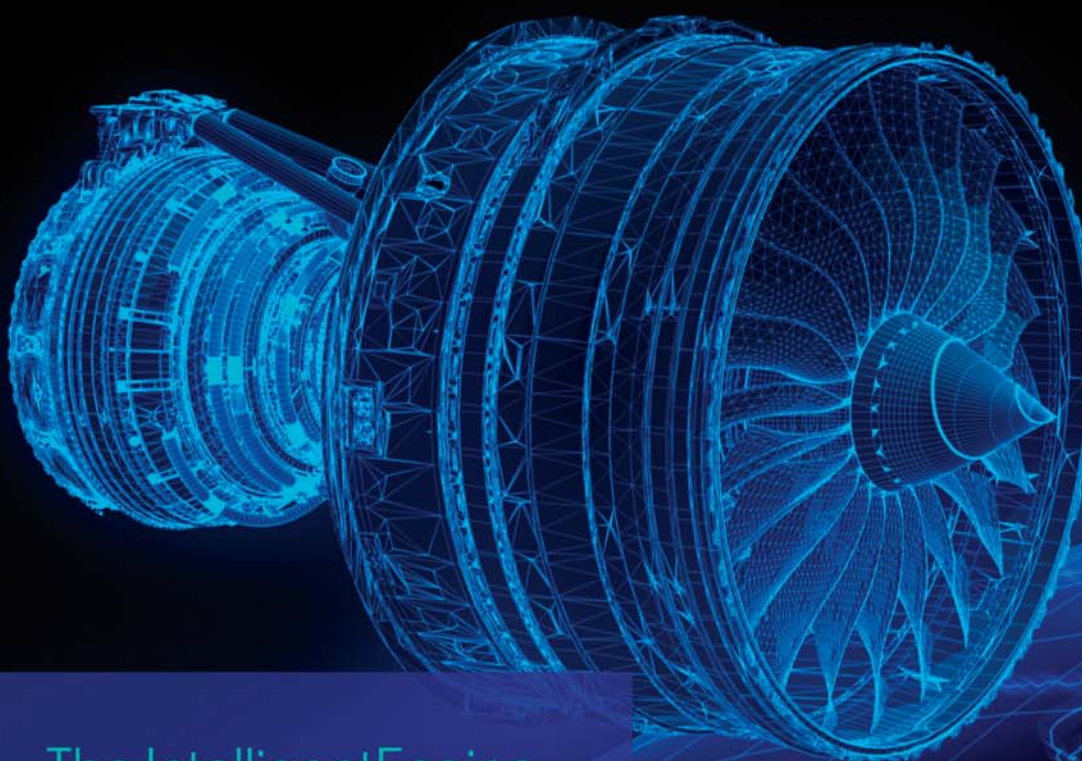
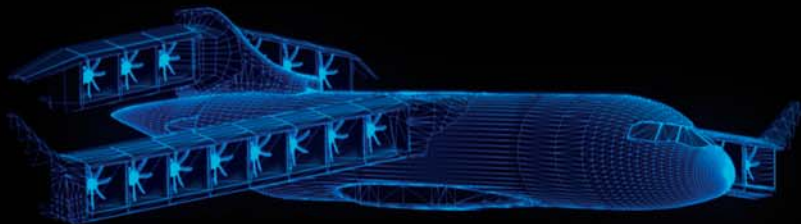


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# Air Tanzania in Dreamland...

*A new era in east African aviation opened in July when Air Tanzania took delivery of its very first wide-body aircraft, a Boeing 787-8 Dreamliner, powered by Rolls-Royce Trent 1000 TEN engines, Alan Peaford reports.*

## Key numbers for the Trent 1000 TEN

- 10:1 bypass ratio is the highest bypass ratio of any Trent, making it the quietest engine on the Boeing 787 aircraft today.
- More than 85% of the engine's thrust is generated by the 2.8 metre diameter fan, which sucks up to 1.3 tonnes of air every second at take-off.
- High-pressure turbine blades inside the engine rotate at 12,500rpm, with their tips reaching 1,200mph – nearly twice the speed of sound. They generate more than 50,000hp, equivalent to 68 Formula 1 racing cars.
- At take-off, each fan blade carries a load of 90 tonnes, which is equivalent to nine London buses hanging from the tip of each blade.
- At full power, air leaves the nozzle at the back of the engine travelling at almost 1,000mph.

The revival of Tanzania's national carrier was established when a Boeing 787-8 Dreamliner, in the company's livery, landed on schedule at Julius Nyerere International Airport in Dar es Salaam on its delivery flight from Boeing's facility in Seattle, Washington, USA.

The significance of the Dreamliner's arrival in Tanzania, for both the airline and the country, was underlined by the attendance at the welcoming event by the Tanzanian President, Dr John Magufuli.

The aircraft has been named: 'Kilimanjaro-Hapa Kazi Tu', which translated into English means 'Kilimanjaro – here to work'.

And Air Tanzania's CEO, Ladislaus Matindi, is determined it will live up to its name.

"We believe this is the perfect aircraft to realize our ambition to connect with the rest of the world through the initiation of intercontinental flights," he said.

Air Tanzania is hoping to begin its international flights by the end of 2018. Understandably, Boeing's Marty Bentrott, sales vice president for the Middle East, Turkey, Russia, Central Asia & Africa, believes the airline has made the correct selection.

"The Dreamliner's unmatched combination of superior fuel efficiency and range makes it extremely flexible and will fit well into Air Tanzania's operations. We are confident the 787 will boost passenger traffic and tourism in and out of Tanzania," he said.

Kevin Evans, Rolls-Royce, vice-president-customers, Africa, said: "We are proud, delighted and excited that Air Tanzania has selected the Rolls-Royce Trent engine to power its Dreamliner aircraft. Air Tanzania has a clear and bold vision for the future, and we are very pleased to be part of it. This wonderful aircraft with the Trent engine will enable Air Tanzania to develop its international route network profitably and deliver a first class service to its customers.

"This delivery adds another Rolls-Royce customer in Africa, which is an important and growing market for us."

The Trent 1000 TEN (thrust, efficiency and new technology) is the latest version of the Trent 1000 specifically designed and optimised for the Dreamliner. With a 10:1 bypass ratio, it has the highest bypass ratio of any Trent engine, contributing to it being the quietest engine on the Boeing 787 aircraft today.

The Trent 1000 TEN first entered into service in November 2017 and incorporates new technologies that deliver increased thrust and improved efficiency for the aircraft.

Rolls-Royce will also be providing Air Tanzania with its TotalCare service support, which removes the burden of engine maintenance from the customer and transfers the management of associated risks to Rolls-Royce.

The agreement also includes a parts availability service option, whereby Rolls-Royce will ensure the airline has critical parts not only on site, but also has access to additional parts and tools around the world to maximise service efficiency.

## Data in the air

Rolls-Royce uses engine health management (EHM) technology to track the performance and health of thousands of its engines operating worldwide. EHM is a proactive technique that can predict when servicing is needed.

Data is collected and compared with data from previous flights in the engine's life, as well as from thousands of hours of testing that takes place before an engine enters service. This information is then cross-referenced with data gathered from flight patterns, and even weather conditions, to give as accurate a picture of the engine's performance as possible. As more data is collected, the intelligence of the system increases.

By the end of 2018, Rolls-Royce will be set to receive more than 70 trillion data points from its in-service fleet each year.

*Nigeria announced ambitious plans to kick-start its aviation industry with a new national carrier, upgraded airports, MRO facilities and a leasing company. But, as Victoria Moores and Alan Peaford report, all is not going to plan.*

# Rebirth of a nation's pride stalled on take-off

**O**n a sunny Wednesday afternoon at the 2018 Farnborough International Airshow, a crowded conference room rang with voices singing the Nigerian national anthem. Nigeria Air had just been unveiled.

Barely two months later there was just a sound of silence as the covers were put back on the plans – for the airline at least.

It had all started so well.

“Nigeria has not been a player for a very long time now,” Nigerian Aviation Minister, Hadi Sirika, said at the Farnborough event, reminiscing on the former glory of Nigeria Airways.

“Unfortunately, the stories of [airline] initiatives since then have not had the desired goal of achieving a top-class competitor and a well-run carrier. For the Government of Nigeria, it is very important that service is offered. There is a large need and demand to serve that sector. We have a moral and social responsibility to create a new national carrier.”

Nigeria is the seventh highest populated country in the world and Africa's largest economy, making it one of the continent's highest-potential air transport markets. “There is a population of more than 180 million, a growing middle class and the current air-traffic market of over 15 million passengers is conservatively expected to grow at 5% compounded annually through to 2036,” said Nigeria Air's promotional flyer.

But, in September, the plans appeared to hit rocky ground.

Sirika had held fleet talks with Airbus and Boeing, as well as having discussions with Qatar

## West and central Africa MRO partnership push

**While there are doubts about a future for the government-owned national carrier, Nigeria is thought to be going ahead with plans to create a maintenance, repair and overhaul (MRO) facility to serve west and central Africa.**

The government is looking to form a public-private partnership (PPP) with an independent MRO company willing to invest approximately \$129 million in the creation and running of a three double-bay narrow-body facility.

In return, the winning bidder will be awarded a 50-year maintenance concession and exclusive-supplier status for Nigeria Air and the new leasing company.

The facilities could be built at either Lagos or

**Air Peace has grown to become the biggest carrier on the west coast of Africa.**



Airways and Ethiopian Airlines, as the government sought potential investors in the proposed airline.

In the longer-term, the Nigerian Government said it was planning to reserve some shares for an initial public offering (IPO), so the general public can literally buy into the airline.

But Sirika has disclosed, via social media, that the Nigerian cabinet has “taken the tough decision to suspend the national carrier project”.

He did not give specific reasons for the suspension, but said: “All commitments due will be honoured.”

The national carrier launch was seen as just one part of a wider Nigerian aviation roadmap that will include airport concessions across the country being put out to tender, an aerotropolis, aircraft maintenance, repair and overhaul

(MRO) infrastructure, perishable cargo facilities and an aircraft leasing company.

But the whole air transport industry in the country is embattled.

One shining beacon in recent years has been Air Peace, which has grown to become the biggest carrier on the west coast of Africa, currently employing thousands of Nigerians and other nationals. The independent airline had previously called on airlines in Nigeria to cooperate and work together, saying the proposed national carrier was not a threat... but that government behaviour was.



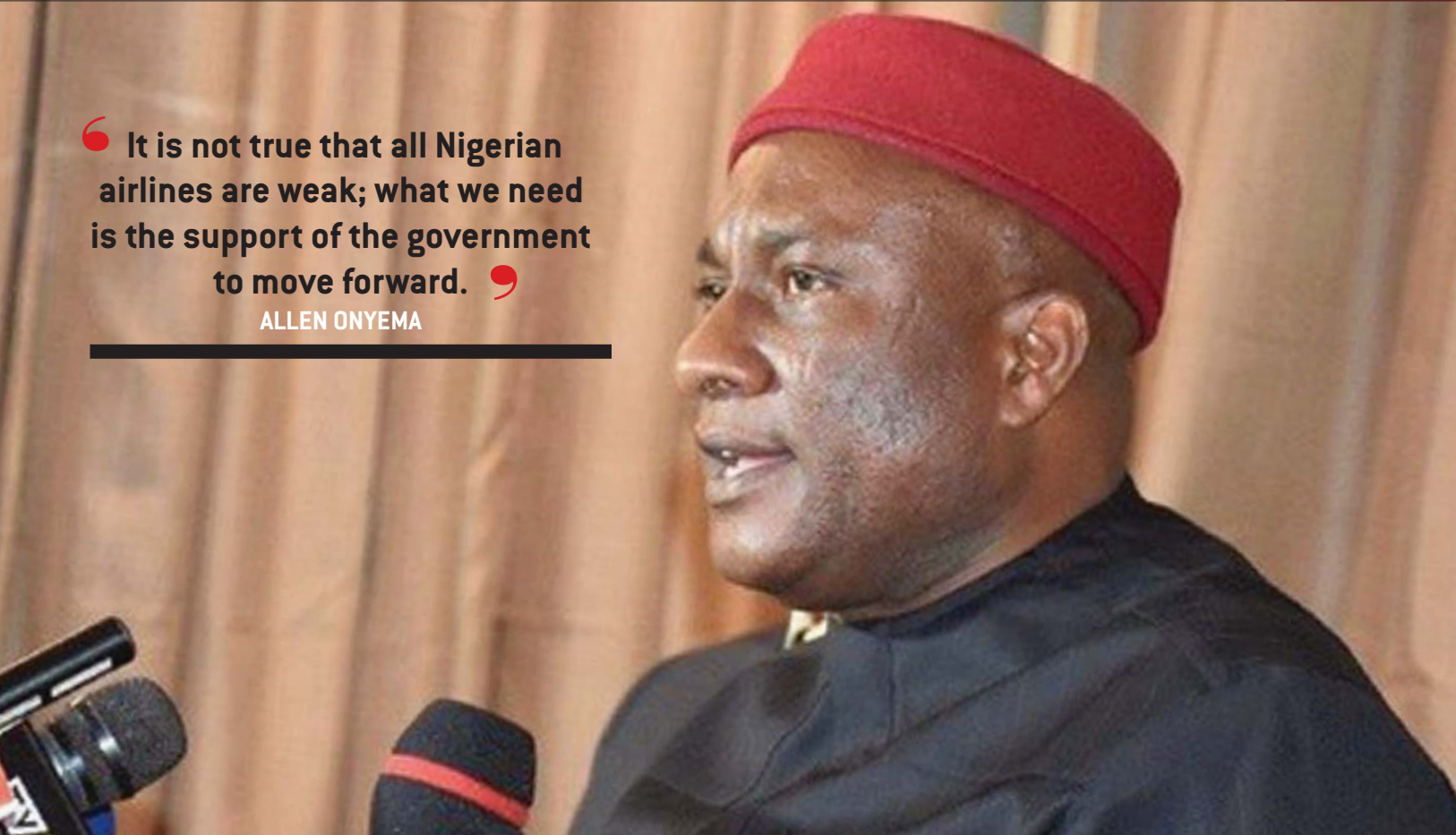
Its chairman and CEO, Allen Onyema, who was recognised as an “agent for positive change” at the Nigeria Goodwill Ambassador Awards for his contributions to Nigeria's social and economic development, has called on the government to change its approach towards the country's existing carriers.

The domestic carriers only required the support of the government to grow bigger and compete with their counterparts globally, Onyema said. “People have been fed with lies that domestic airlines are weak and cannot get it right. They have been told that there are a lot of gaps for the airlines to fill on the domestic scene and on the international level; that they are heavily indebted



“It is not true that all Nigerian airlines are weak; what we need is the support of the government to move forward.”

ALLEN ONYEMA



and will never be able to do anything.

“Those are lies. We are ready to succeed. It is not true that all Nigerian airlines are weak; what we need is the support of the government to move forward. We are not asking the government to give us money because it is the duty of banks to lend money to businesses. I won’t subscribe to asking government at any level to give money to airlines.

“If the government supports us, we will get it right. It is true that Air Peace was given six international and 17 regional routes to fly, but nobody has asked why we have not started. It is one thing to get your government’s permission to fly to some countries but another for the country to permit you,” he said.

Air Peace recently took delivery of two of four Boeing 777 aircraft for its long-haul aspirations and, in September, it ordered 10 brand new Boeing 737 MAX 8 aircraft for its regional and domestic market.

The airline is to begin flights from Lagos to Sharjah and Dubai in the UAE as well as Lagos-Paris; Lagos-Frankfurt; Lagos-Amsterdam; Lagos-Milan; Abuja-Jeddah; Kano-Dubai; Enugu-London and routes to China.

Onyema said the suspension of the proposed national carrier would challenge domestic airlines to perform better, adding that it had restored the confidence of the international community in Nigerian airlines.



Hadi Sirika: The Nigerian cabinet has “taken the tough decision to suspend the national carrier project”

## Airport upgrades on the way

Nigeria’s main international airport, Lagos, was built to accommodate 200,000 passengers. Today, with no expansion, it handles around 8 million travellers annually.

“The government has set out to fix the issues with our air transport system,” Nigerian Aviation Minister, Hadi Sirika, said. “Our airports need to be safe, secure and very pleasant to go through.”

While the state wants to retain ownership of the country’s airport assets, it recognises that change is needed, so the day-to-day running of Nigeria’s airports will be put out to concession.

“It is a very important part of our roadmap to concession these airports,” Sirika said.



Under the initiative, Lagos will be upgraded from 8 million to 20 million passengers. A second runway will be added at Abuja, taking it from 5 million to 16 million passengers per year, and work is also being carried out at Kano and Port Harcourt.

The upgrades were started under the previous government, but Sirika said some problems needed to be resolved. “These airports, all of them will be delivered – except one – before the end of the year,” the minister said. “Lagos might take slightly into next year.”

The government is also looking to develop seven cargo airports dedicated to perishable goods, like fruit, vegetables and flowers.





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# Why you can now buy

*Africa's most profitable airline has been put up for partial privatisation.*

**Kaleyesus Bekele** explains.

According to the International Air Transport Association (IATA), Ethiopian Airlines became the largest airline in Africa in 2014, taking over from EgyptAir and South African Airways.

After launching a 15-year development strategy in 2010 dubbed Vision 2025, Ethiopian has been growing at a rate of 20% every year.

Under Vision 2025, the airline has transformed itself into the largest aviation group in Africa with eight profit centres – Ethiopian International Airlines; Ethiopian Express; Ethiopian MRO; Ethiopian Inflight Catering; Ethiopian Aviation Academy; Ethiopian Cargo and Logistics Services; Ethiopian Ground Handling Services; and Ethiopian Airports Services.

It is also establishing an aerospace manufacturing capability and is building two five-star hotels, which will have 1,000 rooms near its main HQ in Addis Ababa. Ethiopian Hotel and Tour Services is coming into being.

When it introduced the Vision 2025 strategy, Ethiopian was the fourth largest airline in Africa following South African, EgyptAir and Kenya Airways. Back then, it had only 34 aircraft serving 58 international destinations and generating an annual revenue of \$1 billion. Its annual passenger traffic stood at 3.2 million.



Today, Ethiopian Airlines has an annual revenue of \$3 billion. It operates a fleet of more than 100 aircraft serving 116 international destinations on five continents. Its fleet contains the most modern and fuel-efficient aircraft, such as the B787 and A350. It has 16,000 employees on its payroll.

Ethiopian Airlines Group CEO, Tewolde Gebremariam, proudly states that the airline grew threefold in just eight years. According to him, Ethiopian Aviation Group aims to generate an annual revenue of \$10 billion by 2025.

In the fiscal year ending in June 2018, Ethiopian made a net profit of \$233 million. This makes it the most profitable airline in Africa. The airline transported 10.6 million passengers and 400,339 tonnes of cargo.

Ethiopian Airlines is wholly owned by the Ethiopian Government. Aviation experts say the company has disproved the rhetoric that says that



**Gebremariam** visiting the first Ethiopian B737MAX aircraft in June. **Right: The main hub at Addis Ababa Bole.**

state-owned airlines are inefficient and loss-making. Unlike many state-owned airlines in Africa, Ethiopian has been registering a steady growth and making a profit in successive years.

This was the reason why many were stunned by the Ethiopian Government's abrupt decision, announced recently, to privatise Ethiopian Airlines along with a number of other state-owned enterprises.

The Government will put shares on sale for foreign and local investors but hasn't yet revealed the amount. It will, however, retain the majority stake.

Many wonder why the Ethiopian Government has decided to privatise the most successful and profitable airline in Africa.

Alemayehu Geda, a renowned Ethiopian economist, argues that it is not a wise decision, pointing out that African countries usually privatise loss-making airlines to transform them into a profit-making companies, which is not needed in this case. "The national airline is the major foreign currency earner for the country," he added.

Zemedeneh Negatu, chairman of Fairfax Africa Fund, also questioned the wisdom of privatising Ethiopian and urged the Government to reconsider.

There are also concerns as to how Ethiopian's assets and goodwill will be valued and how the shares are going to be floated to potential buyers. Given the efficiency and competence of the airline, could the decision even jeopardise future growth?

However, the Ethiopian CEO defends the Government's position, saying privatisation will, in fact, help the company grow further.

He confirmed that the hospitality business and the aerospace manufacturing business would also be part of the privatisation plan and said that fears about share price values were unfounded. Ethiopian holds a 40% stake in Togo-based Asky Airlines, another 49% in Air Malawi, a 45% share in Zambian Airways, 49% stakes in the Chadian and Guinean airlines, and has 99% control of an emerging airline in Mozambique. Consequently, the privatisation of the national flag-carrier might require cross-equity partnerships, which Tewolde sees as an important step to expand Ethiopian's business portfolio.



He added that the Ethiopian Government has been registering a double-digit economic growth in recent successive years. "Now Ethiopia is in the process of joining the World Trade Organization (WTO)," he said. "As it is warming up to join the globalised world it has to open up its markets. Ethiopia will open its telecom sector and other state monopolies as it joins the WTO."

Ethiopian Airlines has always been globally competitive. "It is true that Ethiopian is the most successful airline in Africa. It has transformed itself into the largest aviation group in Africa. To sustain its fast growth, it is expected to make a big leap forward," Gebremariam said.



# Ethiopian off the shelf



According to him, Ethiopian is planning to transform into a holding company with eight or nine subsidiary companies. Ethiopian Airlines will be a parent company while the international service airline, regional airline, catering, cargo and logistics, MRO, aviation academy, airport services, ground-handling, hotel and tour services, and aerospace manufacturing will be subsidiary companies.

The existing Ethiopian commercial code does not recognise holding companies. Hence, the Government is revising it in such a way as to enable holding companies to flourish. "Then we will develop Ethiopian Airlines into a holding company with subsidiary companies and each will be floated open for partial privatisation," Tewolde said.

Ethiopian has already started the privatisation

process in some aspects. Recently, it signed an agreement with DHL Global Forwarding to jointly establish a cargo and logistics company. Ethiopian will own 51% and DHL 49% of the new joint venture that will provide cargo and logistics services for African and Asian companies.

The company will focus on the African and Chinese markets. "This is the first big step towards the privatisation process," the CEO said.



Ethiopian is planning to start manufacturing labour-intensive products such as aircraft seats, wire harnesses, thermal blankets, and metal sheets, in partnership with OEMs.

According to Tewolde, the planned aerospace project and Ethiopian Airports will be available for partial acquisition. The percentage of the stake in each subsidiary company will be determined based on a detailed study that would be undertaken by international consultants. ■

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Just weeks ago, African low-cost carrier, Fastjet, was teetering on the brink of collapse. But a cash infusion and improved operational indicators are giving CEO, Nico Bezuidenhout, cause for cautious optimism. **Alan Dron reports.**



## THE FAST TRACK TO SURVIVAL...

**The Zimbabwe operation is settling down nicely and we've seen more regular cashflow and positive results month by month.**

NICO BEZUIDENHOUT

In late June, Tanzania-based low-cost carrier (LCC), Fastjet, warned that if it did not raise more funds, it might not survive.

Days later, however, it was able to report that it had raised \$10 million from investors, having placed more than 66 million new shares worth \$7 million.

Additionally, South Africa's Solenta Aviation Holdings, Fastjet's largest single shareholder, agreed to make a further \$5 million investment in stock.

The money is expected to provide Fastjet with enough working capital for the rest of this year. Around \$5 million will be used to support its operations in Mozambique and Zimbabwe, and to pay off loans, while the remainder will support its Tanzanian operations and help prepare for the launch of services in South Africa.

Fastjet has always aimed to become the first pan-African LCC, but has struggled to turn a profit. Part of the reason was its use of Airbus A319s, which had too much capacity for many routes. These have now been replaced with a mix of smaller Embraer E190s and E145s.

In addition, three ATR 72-600 turboprops were due to join the fleet as *African Aerospace* was going to press.

In its annual financial report, Fastjet described 2017 as a

year of stabilisation and pointed to several promising statistics. Although still loss-making, it halved its net losses to \$24.5 million, compared to \$49.7 million in 2016.

Load factor jumped 17% to 71% – partly a result of moving to the smaller aircraft – while costs were cut by a remarkable 48% to \$70.7 million and revenue per seat rose 30% to \$60.9.

The reduction in costs was due to several factors – right-sizing the aircraft it used, cutting staff by 25%, moving the company's headquarters from London to Johannesburg, and paying personnel in rand, rather than sterling, together with slimming down the number of expatriate flightcrew. Some routes "that had no viability in sight" were dropped.

Bezuidenhout also pointed to several hopeful operational factors.

"The Zimbabwe operation is settling down nicely and we've seen more regular cashflow and positive results month by month." Traditionally, he said, airlines had struggled to repatriate funds from the country, but Fastjet had done so in recent months "and we hope that continues".

The Mozambique market remained volatile and much depended on how the country's government resolved problems at the national airline, he added.

Similarly, Tanzania was also currently a challenging place in which to operate, as the national flag-carrier absorbed large new aircraft: "Normally, Air Tanzania would use a Bombardier Q400, whereas we use an Embraer E190. However, they are using a Boeing 787 – operating a wide-bodied aircraft on a one-hour sector. Hopefully that's just a temporary measure, just part of the process of accepting the new aircraft. It can't be sustainable on such a short sector."

□□□□□

Fastjet's new ATR 72-600s will be deployed in Tanzania, said the CEO. Fastjet already covers most of the country's major airports, so, if the company wants to generate more growth there, it needs to focus on shorter sectors where the ATRs' rugged undercarriage can cope with less-than-pristine airstrips.

Tanzania has been Fastjet's largest market, but as operations in more countries grow, the company's dependence on Tanzania is diminishing: "Today it accounts for 55-60% of turnover; 18 months ago, that would have been 90%," said Bezuidenhout.

The big potential prize for Fastjet is breaking into the South African market. It has agreed with a local carrier, Federal Airlines, that it can place its own aircraft on Federal's air operator certificate (AOC) and South African services are expected to start by early 2019.

"The intent would be to get additional aircraft to place on their AOC," said Bezuidenhout. "I wouldn't necessarily want to say what. It would make sense to stick to Embraer aircraft, but we remain open to being convinced otherwise."

Mark Hurst, CEO of largest shareholder, Solenta Aviation, is joining the Fastjet board and will work closely with Bezuidenhout in future. Hurst will also be responsible for Fastjet's operations in Mozambique and Zimbabwe. ■

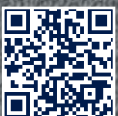


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# Une première mondiale pour Air Mauritius

«Air Mauritius' world first» – Page 26

*Air Mauritius s'apprête à réceptionner le premier A330neo du continent africain dans sa flotte et à être la première compagnie au monde à opérer à la fois l'A350 et l'A330neo. Un reportage d'Anuradha Deenapanray.*

L'A330neo va faire son arrivée à la fin de l'année sur le continent africain. Deux Airbus A330neo seront livrés en novembre à la compagnie nationale mauricienne, s'ajoutant aux deux A350-900 déjà réceptionnés. Deux A350-900 seront livrés en 2019 et deux autres en 2023.

« 2018 sera une autre étape marquante de l'histoire de la flotte d'Air Mauritius, avec la livraison du premier A330neo », affirme Hadi Akoum, directeur des ventes en Afrique subsaharienne et de l'océan Indien d'Airbus. « Air Mauritius deviendra non seulement le premier pays africain à réceptionner l'A330neo mais la première au monde à opérer l'A330neo et l'A350XWB. »

Selon Airbus, l'A330neo contribuera d'améliorer et de moderniser la flotte de la compagnie.

Air Mauritius mise également sur la complémentarité A350XWB/A330neo. Celle-ci permet notamment d'avoir un pool unique de pilotes.

La compagnie souhaite d'abord mener une stratégie de croissance soutenue sur plusieurs de ses marchés. Elle compte améliorer sa connectivité avec l'Inde, l'Asie du Sud-Est,

l'Afrique, l'Europe, l'Australie et des pays de la région de l'océan Indien. Pour cela, elle poursuit des négociations avec des compagnies aériennes pour consolider ou développer des projets de partenariat.

En parallèle, la compagnie consolide son réseau vers la Chine avec de nouveaux vols hebdomadaires vers Wuhan. Elle dessert cet énorme marché à travers ses hubs de Shanghai, Hong Kong et Singapore. Elle opère également des vols charter vers Chengdu.

« C'est en ligne avec notre vision de tirer profit de notre position stratégique entre l'Asie et l'Afrique pour capter le flux croissant de trafic entre ces deux continents. »

Air Mauritius lancera une nouvelle route vers Bangkok cet automne. Elle sera opérée soit en direct ou via Singapour en Airbus A330neo. Elle considère également une connexion avec la Corée du Sud. La compagnie mauricienne a également développé une collaboration avec Kenya Airways. L'océan Indien est une région stratégique pour la compagnie kenyane puisqu'elle a également scellé un partenariat avec Air Austral et Air Madagascar.

La stratégie régionale d'Air Mauritius comprend

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l'augmentation des fréquences dans le bassin océan Indien et la création de nouveaux marchés à savoir les Seychelles et Les Comores. Air Mauritius apportera son expertise pour évaluer la possibilité de créer une nouvelle compagnie aérienne aux Comores (Karthala Airways). Le gouvernement comorien est dans l'attente d'un « Air Operator Certificate ».

La compagnie a enregistré pour l'exercice 2017-2018, un chiffre d'affaires record en augmentation de 3%. Cette bonne performance est impactée par la hausse du prix du kérosène (de 35% en une année), la volatilité du taux de change, les investissements et la forte concurrence.

Cette tendance s'est confirmée pour les résultats du premier trimestre 2018-2019. Ils sont dans le rouge.

« La compagnie poursuit toutefois son développement en gardant le cap sur le long terme. Une flotte moderne et homogène et le

renforcement des destinations desservies demeurent une priorité, avec en ligne de mire la connectivité et le hub Maurice. »

Depuis plusieurs années, Air Mauritius a pris un virage stratégique avec notamment la mise en place d'un nouveau «business model» et le renouvellement indispensable de sa flotte pour reconquérir ses parts de marché. A noter que sa part à Maurice a chuté de 48% à 42% lors des cinq années précédentes en raison d'un détournement du trafic vers d'autres hubs.

La compagnie veut se différencier en misant sur sa marque de fabrique, le « mauricianisme », présents dans ses produits et ses services.

Cette nouvelle stratégie s'avère certes un peu tardive mais judicieuse dans le contexte actuel. La facture serait sinon beaucoup plus salée. Plusieurs initiatives sont en cours pour améliorer les recettes et réduire les coûts. La maîtrise de sa gestion du hedging sera également déterminante.

### 3 questions à Hadi Akoum, directeur des ventes en Afrique subsaharienne et de l'océan Indien d'Airbus.

#### Anuradha Deenapanray: Que représente la livraison de l'A330neo à Air Mauritius pour Airbus ?

Hadi Akoum: Nous sommes fiers de notre profond lien avec Air Mauritius.

En 2017, la compagnie a réceptionné son premier A350-900. Nous sommes heureux de la livraison prochaine de l'A330neo, un avion d'exception.

Il repose sur les avantages économiques, l'efficacité opérationnelle, le confort et la fiabilité de la famille A330. L'A330neo permet une réduction d'environ 25% de la consommation en kérosène par siège. L'A330neo contribuera à améliorer et à moderniser la flotte de la compagnie.

#### AD: Quelles sont les perspectives pour ces modèles et dans quels pays ?

HA: Le marché du transport aérien africain présente un énorme potentiel de croissance et de développement. L'Afrique a été un marché important pour Airbus durant les quatre dernières décennies.

L'Airbus Global Market Forecast prévoit une hausse annuelle de 5,2% du trafic vers et de, et à l'intérieur de l'Afrique lors des 20 prochaines années.

La croissance pourrait être plus rapide avec l'application totale du SAATM à travers le continent. Les compagnies africaines auront besoin d'au moins 1000 nouveaux avions (commerciaux et fret) pour répondre aux besoins croissants d'ici à 2036.

#### AD: Vos avions sont-ils adaptés aux besoins du marché ?

HA: Les opérateurs africains sont de plus en plus conscients des avantages opérationnels et



économiques d'investir dans de nouveaux avions modernes. Airbus compte 29 nouveaux opérateurs africains parmi ses clients depuis 2010.

C'est un témoignage de confiance dans nos avions modernes, fiables et efficaces de même que dans la performance de nos services. Nous voulons continuer à équiper les compagnies africaines et soutenir leur stratégie de développement. ■

## SUMMARY

## AIR MAURITIUS' WORLD FIRST

Air Mauritius will soon become the first airline in the world to operate both the Airbus A330neo and A350XWB airliners – and the first in Africa to receive the A330neo.

Two Airbus A330neo wide-body airliners will be delivered in November to the Mauritian national carrier, adding to the two A350-900s already received. A further two A350-900s will be delivered in 2019 and two more in 2023.

Airbus sales director for sub-Saharan Africa and the Indian Ocean, Hadi Akoum, said 2018 would be yet another milestone in the history of the Air Mauritius fleet, with the delivery of the first A330neo helping to improve and modernise the renowned airline.

"The entire African air transport market has enormous potential for growth and development. Africa has been an important market for Airbus for the last four decades," said Akoum. "The Airbus global market forecast predicts a 5.2% annual increase in traffic to, from and within Africa over the next 20 years. African airlines will need at least 1,000 new aircraft (commercial and freight) to meet growing needs by 2036."

Commonality between the A350XWB and A330neo airliners also means that Air Mauritius will be able to concentrate on a single pool of pilots.

□□□□

Strategically, the airline is intending to use its new fleet to aid growth in key markets, planning to improve connectivity with India, south east Asia, Africa, Europe, Australia and countries in the Indian Ocean region. To this end, it is negotiating with airlines further to consolidate – or develop – partnership projects.

In parallel, the company is enhancing its network to China with new weekly flights to Wuhan, serving this huge market through hubs in Shanghai, Hong Kong and Singapore. It also operates charter flights to Chengdu.

Air Mauritius was also planning to launch a new route to Bangkok this autumn, operating either directly or via Singapore, and was considering a further connection with South Korea. The Mauritian company has also developed a regional collaboration with Kenya Airways. The Indian Ocean region is strategically important for the Kenyan airline where partnerships with Air Austral and Air Madagascar are already in place.

Air Mauritius' regional strategy includes increasing schedules in the Indian Ocean basin while creating new markets, specifically to the Seychelles and Comoros islands. The airline will use its regional experience to evaluate the possibility of creating a new airline in the Comoros islands, to be named Karthala Airways, and to this end the Comoros Government is applying for an air operator certificate.





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*Nigeria-based Med-View Airline is a scheduled passenger airline that has succeeded – despite numerous survival challenges over the years – largely as a result of its involvement in the airlifting of pilgrims. Chukwu Emeke reports.*

## Pilgrims and progress...

**P**ilgrims have certainly helped Med-View Airline to progress, according to its managing director, Muneer Bankole. “Between 30-35% of our revenue yield is from Hajj flights and we have airlifted more than 300,000 pilgrims since 2007,” he explained.

The airline, which began flights by airlifting pilgrims from Nigeria to Jeddah in 2007, started scheduled domestic operations in 2012 and embarked on regional operations in 2014.

It gained attention during the 2007/2008 Hajj operations, when it received approval from the National Hajj Commission of Nigeria (NAHCON) to carry out rescue operations for pilgrims stranded in Ilorin, Lagos, Sokoto, Maiduguri and Yola airports during outbound flights to Saudi Arabia, as well as those stranded in Saudi Arabia for inbound flights into Nigeria.

Med-View has airlifted more than three million domestic passengers since 2007 and partners with Saudi Cargo Airline annually to airlift more than 46,000 tonnes of cargo.

It recorded a 42% increase in its revenue at the end of December 2017 and emerged as the 19th airline on the log of international airlines in terms of high passenger traffic in 2017, transporting 72,175 international passengers.



Bankole said none of the 15 countries in west Africa has a national airline, despite a population of more than 300 million people. This has helped make Med-View flights into these countries, which have a huge Hajj passenger volume, pay off.

Scheduled passenger volume has been positively affected, thereby boosting the airline’s drive for route expansion, he added.

“We airlift a lot of passengers from Conakry for instance, in a country with a 90% Muslim population. We also have a huge volume from Mali. This is why we go to most of the destinations we fly into. In west Africa, particularly, we go to places where we can generate enough steady Hajj traffic and this has helped us.”

The only Nigerian airline currently quoted on the Nigerian Stock Exchange (NSE), Med-View operates an all-Boeing fleet consisting of B737s, B767 and B777. According to Bankole, four of Med-view’s aircraft were bought using its cashflow because “the best way to survive is to own your asset”.

The airline operates flights to eight local destinations and



“In west Africa, particularly, we go to places where we can generate enough steady Hajj traffic and this has helped us.”

MUNEER  
BANKOLE

three weekly regional flights from Lagos to Freetown in Sierra Leone, Monrovia in Liberia and Accra in Ghana.

It had launched Lagos-Abuja-Dubai flights in November 2017 and “the aircraft was 85% full on its first flight out of Lagos”. However, the operation was suspended in January 2018 to enable its Boeing-christened ‘Abeke’ aircraft to undergo a C-check and refurbishment in the United Kingdom involving an increase in its number of seats from 221 to 242.

Following the Dubai flight suspension, booked passengers were airlifted via another airline through an interline arrangement.

Having begun international flights to London and Jeddah in 2015, Bankole says the airline is discussing with the South African and United States authorities the possibility of adding two destinations to its routes before 2019.

On the London route, it carries an average of 8,000 to 10,000 passengers monthly and transported 9,000 passengers specifically in January 2018.

He notes that airlines in Nigeria are operating under very harsh conditions, making it difficult to compete with big players in other parts of the world.

Bankole makes a case for his government’s subsidization of airline costs, such as fuel, stating that Med-View’s fuel consumption within the last five years has hit N22 billion (more than \$60 million). He appealed to his government to encourage the survival of local airlines, as is done in other countries of the world.

He further emphasised the importance of having a basic maintenance, repair and overhaul (MRO) facility “such that if anything happens to your aircraft, you can maintain it here. We need vendors who can provide this support within 24 hours, as they have in Europe.”

The airline’s relationship with international partners has contributed to its success. Such partners include Euro-Atlantic Airways of Lisbon, Portugal; Pluna Air of Uruguay; Air Atlanta of Iceland; and Saudi Air Cargo in a general sales agency (GSA) agreement.



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*Despite the Angolan Government disbanding a consortium that planned to set up a feeder airline for national carrier TAAG, one of the main movers behind it believes that the project will still go ahead. Alan Dron reports.*

# Pereira wrestles with TAAG team troubles

**T**he announcement, when it came, was a shock. Despite having progressed as far as ordering a fleet of turboprop aircraft, the consortium set up to usher in a new era of domestic air services in Angola was being disbanded by the country's new president and Government.

The consortium, Air Connection Express (ACE), was a public-private partnership made up of carriers Air 26, Air Guicango, Airjet, Diexim Expresso, SJL and flag-carrier TAAG, plus air taxi operator Mavewa, aircraft ground-handler and fixed-base operator (FBO) Bestfly, and the country's national airport management company, ENANA.



The plan was to create a network of feeder services into Luanda's new international airport, from where passengers could connect to international services by TAAG, the national carrier.

ACE's plans were thrown into disarray in July by the president's decision.

However, one of ACE's backers, Bestfly's managing director and CEO, Captain Nuno Pereira, believes that the scheme will be resurrected.

Pereira is a veteran of the Angolan aviation scene, having joined the nation's fledgling air force as a cadet in 1994. He became a bush pilot, flying a DHC Twin Otter for the Angolan Oil Company, before moving on to flying relief supplies on a Boeing 727 with Angola's Transafrik International for the World Food Programme.

He moved steadily up the aircraft size scale,

## A decade of success

**Bestfly began life in 2009 as a VIP ground-handling company in the Angolan capital, Luanda, and in 2010 added its first aircraft, a Beech King Air, at the request of one of its clients.**

**Today, as the largest privately-owned aviation company in Angola, Bestfly manages a fleet of 15 executive aircraft, ranging from four King Airs to mid-size and top-of-the-range models such as the Dassault Falcon, Bombardier Challenger and Global Express, plus the Gulfstream G450 and G550.**

**The company also operates charter flights using the spare capacity offered by those aircraft when not needed by their owners. It is the only Angolan aircraft operator, other than national carrier TAAG, to hold a European Union (EU) third country operator certificate, which allows it to fly into the 28 EU nations.**

**Bestfly is also the only certified fixed-base operator (FBO) in Angola to have a customs and immigration facility, which was opened in 2013. The FBO facility includes what Pereira describes as "One of the best hangars on the continent and certainly in Angola" that can fit two Gulfstream or Global Express-sized aircraft inside.**

**The company operates under two air operator's certificates (AOCs), those of Angola and also of Aruba, where Bestfly maintains an office.**

**Among Bestfly's activities, it provides all ground-handling activities for Chevron Oil, which uses Pereira's company via its local subsidiary, Cabinda Gulf Oil Company.**

**Chevron operates what is, in effect, a mini-airline with four Bombardier Dash 8 Q400 turboprops and 10 Bell helicopters, which ferry personnel to and from its offshore operations base in Malongo, in the Angolan enclave of Cabinda.**

including a spell with Portugal's EuroAtlantic Airways on Boeing B747-300s and Lockheed L1011 Tristars, before ending up as a Boeing 777 pilot with TAAG.

Moving into the corporate aviation sector with NetJets Europe in 2003, he was one of the first NetJets officers to fly the Gulfstream IV on its introduction to the European fleet.

Since 2009, however, he and his wife, Alcinda, have been running Bestfly, Angola's largest fixed-base operator and corporate aircraft management company.



All of which made him a natural addition to ACE, which, in May, placed an order with Canada's Bombardier for six Q400 turboprops. "The Q400 is unbeatable for routes of up to 2.5 hours with low passenger loads," said Pereira. Its main competitor for the contract, the Franco-Italian ATR, "is a great plane, but it's more for journeys of 450 miles at most". Additionally, several airports in central Angola are at elevations of 4,000 to 5,000ft "and the performance of the ATR in hot-and-high conditions doesn't do the job".

The Q400, however, can tackle typical Angolan temperatures with full fuel and a full payload, he said.

The new Luanda International Airport is designed to be a hub for the region, but "How do you create a hub if you don't have a feeder system?" As well as connecting half-a-dozen Angolan cities to the capital, ACE's plan was to have the Q400s travelling as far as 950 miles



“They know cancellation would have an impact on the country itself. They are trying to find a way of not defaulting on the contract.”

CAPTAIN NUNO PEREIRA



(1,500km), which brings within range cities such as Kinshasa in the Democratic Republic of the Congo, Brazzaville and Pointe-Noire in Congo, and perhaps even Harare, in Zimbabwe.

“TAAG has domestic services, but with Boeing 737s. And to fly 30 passengers on a 40-minute flight doesn’t make sense,” said Pereira. “You don’t have to be a brain surgeon or have a degree in economics to understand that the economics are not in your favour. You need 60 to 80 passengers to break even [on a 737]. On the Q400 with 30 passengers, you at least break even.”

A similar point was made following the May signing of the contract by Bombardier Commercial Aircraft’s vice-president sales, Middle East and Africa, Jean-Paul Boutibou: “The Q400 has proven to be a key contributor to the growth of the [air travel] network in the region, enhancing connectivity on routes that are not economically viable for larger aircraft.”

Pereira refuses to blame the Government for the situation and negotiations are now under way with it to arrive at a new solution for a domestic airline.

“The Government of Angola decided to

change their strategy and we understand that the vision and view that they had might be different than it was,” he said.

However, he is annoyed that there have been allegations of corruption around ACE.

“It’s a bit frustrating to see that people are trying to smear and create an image of wrongdoing when, in reality, nothing happened that was wrong.



“Let me put it like this: I can’t disclose the numbers that we discussed with Bombardier but if you’re paying bribes, normally that’s associated with over-pricing the aircraft. So how do you explain that we got a price almost as low as Ethiopian Airlines when they bought 40 Q400s and we only bought six?”

Pereira stresses that, despite the demise of ACE, the contract for Q400s has not been cancelled: “We’re not in the business of not honouring contracts.” Even if it takes another year to 18 months, he believes in the business case for a domestic carrier.

He believes the Government has the same attitude, aware that scrapping the deal would have a negative effect on Angola’s image. “They know that cancellation would have an impact on the country itself. They are trying to find a way of not defaulting on the contract.”

So, what happens now? “The Government will make a business case or a study [for a new airline]. If you ask me would I like to be involved, I would say ‘Yes’.”

Creating a single, domestic airline would not only create structural change in the Angolan aviation sector but would help develop the country’s infrastructure as a whole, with the need to create more skilled jobs through the training of pilots, cabin crew and mechanics.

Bestfly had been involved with ACE from the outset, he said – “It was a very solid business plan” – and Pereira’s attitude towards setting up a domestic airline has not changed.

However, if the new airline ultimately does not go ahead, Bestfly will not be adversely affected: “Our business model remains the same. Most probably, we won’t get involved in the scheduled airline anyway – our business is corporate flying.”

*Nouvelair, a Tunisian private company operating charter and scheduled flights, will celebrate its 30th anniversary in 2019. Deputy general manager, Chokri Zarrad, shared his ambition for the company with Vincent Chappard.*

# NOUVELAIR GETS PERSONAL

Chokri Zarrad: "Tunisian customers love direct contact and having people able to listen."



**N**ouvelair opened its first agency in the Tunis business district in 1989. Other cities soon followed, with an increased presence at airports served by the company.

Since its creation, Nouvelair has transported more than 30 million passengers. Last year alone, it exceeded one million passengers (its 2011 level before the political crisis), and double-digit growth is estimated for 2018 due to two major factors: the recovery of tourism activity on the Tunisian market and the consolidation of regular routes.

## SOMMAIRE

### UNE STRATÉGIE DE PROXIMITÉ POUR NOUVELAIR

*Nouvelair, compagnie privée tunisienne opérant des vols charters et réguliers, fêtera ses 30 ans en 2019. Le point avec Vincent Chappard.*

En 2015, Nouvelair a amorcé un changement stratégique avec le lancement des vols réguliers conjointement avec les vols charters. Pour Nouvelair, l'objectif majeur est d'être plus proche du client et multicanal.

« Nouvelair a travaillé sur la proximité avec la création d'une plateforme digitale, un site web, une application mobile », explique Chokri Zarrad, directeur général adjoint de Nouvelair. Nouvelair compte consolider ses assises

sur le marché local, le Maghreb, l'Europe, le Moyen-Orient puis l'Afrique en particulier dans l'optique de la libéralisation de l'espace aérien. Elle va lancer d'ici la fin de l'année une ligne vers Istanbul.

La croissance est donc au rendez-vous avec la reprise de l'activité touristique sur le marché tunisien et la consolidation des lignes régulières. Nouvelair va étoffer sa flotte d'ici la fin de l'année.

Other encouraging factors include pilgrimage flights to Saudi Arabia and charter flights for travel agencies.

Nouvelair will also expand its fleet by the end of the year and negotiations are under way to lease new aircraft. Strengthening the current fleet with eight A320s is seen as vital to respond efficiently to the increase in traffic.

Big changes occurred with a strategic development in 2015, when Nouvelair launched scheduled flights alongside its charter work to respond effectively to the changing air transport and tourism needs.

The company now serves destinations in France, Germany, Denmark, Sweden, Russia and Algeria.

In fact, Nouvelair has several destinations in France, with daily flights to Paris, Nice, Nantes, Toulouse and Marseille. It added Mulhouse and Deauville to its network in May 2011.

Operating from Tunis-Carthage, Enfidha, Monastir and Djerba, the airline also boasts scheduled flights to Germany, Vienna, Italy and Russia.

For Nouvelair, the major objectives are to be both closer to the customer and also running a multi-channel operation.

"We will pursue charter flights, the historical activity of our company," said deputy general manager Chokri Zarrad.

"With the launch of scheduled flights, we also had to change our strategy in terms of distribution and communication. Nouvelair has been working a lot on proximity by creating a digital platform, a website and a mobile application."



The airline felt the need to expand its distribution network and go beyond the direct channels via its own agencies and the web. Last June, it unveiled a new fare offer for its passengers and the opportunity to personalise their journey on the web thanks to three service and fare offers – light, easy and flex.

Although the digital channel is not yet very developed, the trend is on the rise. "Tunisian customers love direct contact and having people able to listen," said Zarrad, who underlined that the company has continued to be "a vector of development of tourism activity", which is necessary for the country.

By the end of the year, Nouvelair will launch a route to Istanbul. "The country has enormous potential. It is the first tourist destination of Tunisians," explained Zarrad.

Nouvelair, which has been serving Algeria for two years, will consolidate its position on the local market, North Africa, Europe, the Middle East and the African continent, especially with the gradual opening of its skies.

Zarrad remains optimistic and open to any partnership and participates in discussions on the liberalisation of air traffic in Tunisia in the wake of the single African air transport market (SAATM), initiated by the African Union.

The new outreach strategy comes at a significant time in the company's development. In the face of an industry that is fast-changing and modernising, charter companies are expected to diversify their operations to survive in an increasingly competitive environment.





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*In Nigeria, an airline that suffers a crash invariably collapses. Dana Air's chief operating officer explains to Alan Dron how the company's qualities have allowed it to buck that trend.*

# How Dana sowed the seeds of recovery

**N**ot many Nigerian airlines live to see their 10th anniversary. That Dana Air is able to celebrate that milestone this year is down to a combination of solid performance and passenger loyalty, according to chief operating officer (COO) Obi Mbanuzuo.

Not that the company hasn't faced problems over the years. A 2012 crash of one of its MD-83s on approach to Lagos Airport after engine failure resulted in 163 deaths among passengers and people on the ground.

There were also two incidents in February this year that were still under investigation at the time of writing. In one, an emergency exit door detached from one of its MD-83s on landing at Abuja, while a sister-aircraft overran the runway at Port Harcourt when landing in heavy rain.

Dana Air has said that passenger action was responsible for the emergency door being opened and that similar incidents have occurred with other carriers, and that overruns in wet conditions were not unknown – it happened to a XiamenAir flight at Manila in August, for example.

There were no casualties from either incident. However, the Dana Air overrun led to another of the airline's MD-83s being scrapped.



Interestingly, Mbanuzuo notes that no Nigerian airline has suffered a crash and survived the experience; the fact that Dana Air has continued in business is a testament to its strengths and the loyalty of its passengers.

The COO puts this down at least partly to Dana Air's standards of service. And, if there is a complaint, the airline ensures that it is dealt with. "On-time performance is also a big, big thing" that helps distinguish Dana Air from its domestic competitors, he added. "From day one, we've had that as our main selling point; we'll get you there on time, assuming everything is within our control."

Many other Nigerian carriers have



**On time performance has aided Dana with the support of crew and loyal passengers.**

disappeared in the decade since Dana Air started operations. Part of the reason, said Mbanuzuo, was that the industry attracted people who had no aerospace experience: "Nigeria is not unique in that sense. Airlines are glamorous. If I'm a businessman who has made it in banking or another industry, airlines become 'the next thing' to get involved with. People just don't know what they are doing." New airlines tended to exist for three to five years before collapsing, he said.

Another factor in Nigeria has been a lack of governmental policy or direction for airlines.

"The Government has never paid attention to the airline sector as a driver of the economy," said Mbanuzuo. Rather, the Government regarded the airline sector as being for the rich and something which it could tax heavily, while ignoring factors such as infrastructure, training

and all the other facets necessary to create a healthy airline sector.

The appearance of Nigerian airports did not inspire confidence in the travelling public and runways were often not in good condition; one runway at Abuja had to be closed for several weeks a couple of years ago because it was becoming a safety hazard.

Additionally, he said, the airline sector was burdened by taxes on virtually every aspect of its business. Most items required by airlines had to be imported and were subject to tariffs, while Nigerian airlines felt that they were double-charged for air traffic control (ATC) services – once through a 5% charge on all tickets, of which just over one-fifth went to pay for the country's ATC network, and then again directly when they used the service.

Airlines also had to cope with value-added tax



From day one, we've had that as our main selling point; we'll get you there on time, assuming everything is within our control.

OBI MBANUZUO

on air travel, plus a 'throughput charge' when loading fuel.

In a nation of 200 million people, just 15 million used air travel. "The only way to get more people to fly is if aircraft can compete against roads and rivers," said the COO.

Historically, Nigeria had a national carrier, Nigeria Airways, which collapsed in the mid-1980s. This was a substantial airline with more than 20 aircraft, including McDonnell DC-10 wide-bodies for long-haul routes. In many ways it had been a good airline, said Mbanuzuo, but it was inefficient.

Plans were announced at July's Farnborough International Airshow for a new national carrier, Nigeria Air.

Since the announcement, Nigeria's airlines have been trying to find out what a new national airline could mean for them and their businesses. "We don't have a problem with it, so long as the government provides whatever incentives or benefits for the national airline to everyone. As long as it's a level playing field, that's fine," said Mbanuzuo.

"If a new Nigeria Airways means we'll get better runways and airports, fine; we're quite happy. The worrying thing is, we haven't had a clear message yet. I personally don't think there's been much serious thought put into it."

Dana Air now operates three MD-83s and an MD-82. The aircraft have both advantages and problems, said Mbanuzuo. On the plus side, the

rear-engined aircraft are popular with passengers, partly due to their quietness inside the cabin and smooth flying qualities.

On the negative side, "in Nigeria, the 737 is king", noted Mbanuzuo. Most other Nigerian airlines operated the Boeing twin-jet and this meant that it was more difficult for Dana Air to find new pilots and cabin crew.

However, there was no problem in continuing to source spares for the McDonnell Douglas design – major US carriers such as Delta still operate the type – and Dana Air had built up a high degree of engineering expertise on the type. Dispatch reliability is around 97%. "We will keep flying the MD until we're unable to keep the aircraft flying, or until economically they don't make sense anymore."



Having said that, said Mbanuzuo, the company was working on a plan to renew the fleet and it anticipated bringing in new aircraft in 2019. No firm decisions on type have yet been made.

At present, Dana Air operates a purely domestic route network, flying between Lagos, Abuja, Port Harcourt, Owerri and Uyo. Any expansion in the near term is likely to take place within the country rather than internationally.

This is partly because of the considerable untapped potential of the country, whose economy is by some measures now reckoned to

be larger than that of South Africa, for many years the continent's economic leader. However, that brings Mbanuzuo back to the problem on realising that potential when the country's government does not realise how much aviation contributes to the economy.

Dana Air is being held back by that lack of governmental policy to encourage the airline sector, together with a lack of investment in airports – most of which only operate from dawn to dusk because of a lack of landing aids. This, in turn, means that Dana Air and its competitors are flying for sub-optimal periods, which pushes up costs and ticket prices, thus choking demand.

The carrier operates with a load factor of around 60%. The airline would like to offer cheap fares to encourage people to fly and fill its empty seats, but high taxes mean this is impossible.

Dana Air is part of the Dana Group of organisations, one of which is a charitable foundation, and the airline makes on-board collections to help fund the foundation's work, which includes a home for disadvantaged or homeless children. It also picks an annual charitable cause – this year's is the fight against sickle cell anaemia – and in July, Nigeria's League of Airport and Aviation Correspondents named it the country's most socially responsible airline.

Perhaps it is this type of action that helps engender that loyalty among Dana Air's customers. ■



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Faced with the opening up of air freight to national private operators as part of the government's new economic orientation, Air Algérie has taken measures to adapt to the new environment. Report by **Anuradha Deenapanray and Vincent Chappard.**

## AIR ALGÉRIE STARTS TO PUNCH ITS WEIGHT AGAIN



**Yahia Hassenaoui:** "Air Algérie wants to recover and preserve international market shares and conquer new markets."

According to Abdelghani Zaalane, the Algerian Minister of Public Works and Transport, Air Algeria cannot fully respond to all the demands of economic operators willing to export their products.

Addressing the finance committee of the National Assembly, he justified the decision to accelerate the development of the national economy by opening up the air freight market by saying that the national carrier had "limited capacity".

Opening the air freight market has become essential with the significant increase in non-hydrocarbon exports (3.4% in 2017) and the strong demand from certain African countries.

The measure will raise Algeria's quota in the world freight market, encourage public and private investment. This will, according to the minister, boost the national economy and create new jobs.

"To date, transportation costs represent 35% of the value

of commercial products. We want to bring the figure to 15% by 2025," explained Zaalane.

Air Algérie must now react quickly and efficiently to be competitive against private operators who can acquire or charter aircraft for their export operations.

The national carrier started to put more emphasis on the freight sector back in 2016, when it created Air Algérie Cargo. Figures for 2017 show an increase of 13% compared to the same period in 2016.

"The opening of the air freight market to competition will be a challenge for us," admitted Yahia Hassenaoui, CEO of Air Algérie Cargo. "However, it will encourage us to ensure a good level of skills and human resources and maintain efficient equipment."

The company is convinced that it could "support and benefit these new operators through eventual win-win partnerships and deploy its expertise to boost the expectations of exporters in line with government guidelines".

Air Algérie Cargo has two aircraft, a Lockheed Hercules HL-382 and a B737-700 QC, entirely dedicated to freight activity. It operates from its Algiers hub for Algeria and Paris Charles de Gaulle and Lyon airports for Europe. There are also plans to add Marseille as a hub.

A B737-800 with a payload capacity of about 22 tonnes will be in service next July. It is part of the company's action plan to adequately meet the growing demand.



"Air Algérie wants to recover and preserve international market shares and conquer new markets through authorised general sales & service agents (GSSA)," said Hassenaoui.

The sales networks covered by GSSA are: Canada and North America, United Kingdom, Eastern Europe, Spain and Portugal, Asia (China and Korea).

Air Algérie wants to fully participate in the promotion of national production and export. It will also offer international freight-forwarding opportunities from El-Oued, Biskra, Oran, Constantine, Annaba and Hassi Messaoud, in accordance with international regulatory and security standards and requirements.

The carrier is very interested in African and Asian markets. Volumes to these destinations have risen sharply, mainly because of Government support to develop the export of Algerian products, an increase in the range of products and the number of exporters, and incentives given to set up logistics platforms.

The company will also invest in training, while developing the transit market between Africa, Europe and the Middle East, modernising the operations centre at its hub in Algiers and introducing electronic freight (E-freight) systems.

Despite strong competition, Air Algérie wants "to preserve its position as a historic leader in Algeria" by repositioning itself on the African market and maintaining or even increasing its share of the world market. ■

### SOMMAIRE

## UNE STRATÉGIE DE CROISSANCE

Face à l'ouverture du fret aérien aux opérateurs privés nationaux, Air Algérie a pris des mesures pour s'adapter à la nouvelle donne.

Le ministre algérien des Travaux publics et des Transports, Abdelghani Zaalane, a justifié cette décision par la nécessité d'accélérer le développement de l'économie nationale et les capacités limitées de la compagnie nationale.

Consciente des enjeux, Air Algérie a élaboré une stratégie reposant sur la nécessité de capter un volume plus important de fret en évolution constante.

Cela s'est traduit par la création d'une filiale dédiée exclusivement à l'activité fret en 2016.

Selon Yahia Hassenaoui, directeur d'Air Algérie Cargo, la mise en service d'un B737-800 fait partie du plan d'action.

Air Algérie veut conquérir de nouveaux marchés à travers des GSSA (agents de vente agréés). Elle va aussi offrir des possibilités d'acheminement du fret vers l'étranger, à partir d'El-Oued, Biskra, Oran, Constantine, Annaba et Hassi Messaoud.

Air Algérie s'intéresse également aux marchés africain et asiatique.



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*Former Air Burkina and Air Mali CEO, Abderahmane Berthé, took leadership of the African Airlines Association (AFRAA) in January, succeeding Elijah Chingosho. Victoria Moores caught up with Berthé to hear about his experience as secretary general so far, as he prepares for the organisation's biggest event of the year.*

# SINGLE MINDED

«Ma vision pour l'AFRAA » – Page 40

## What do you expect from this year's AFRAA annual general assembly (AGA)?

The 50th AGA will be held in Rabat, Morocco, from November 25-27, under the theme 'Strengthening African aviation in a liberalised environment'. We expect to have a successful AGA, with more than 400 participants from airlines and industry partners from all over the world.

African airlines are expected to reaffirm the need to be more innovative in their service delivery, while managing their costs, to ensure competitiveness and encourage more people to travel by air.

The CEOs and industry leaders will be sharing ideas and views on strategies to succeed in a liberalised environment, as well as approaches for innovation and enhancing the passenger experience.

## What are the main barriers to success?

The air transport industry in Africa is still challenging for African airlines.

There is an urgent need to address many obstacles, so our members can return to profitability. These include full implementation of the single African air transport market (SAATM), resolving the issue of blocked funds, addressing above-average passenger taxes, charges, fees and fuel prices, and poor infrastructure at several airports.

Africa represents 16.75% of the world population, but only 2-4% of the global air transport market. African aviation needs to be strengthened to raise market share for African airlines, which currently is less than 20% of international traffic.

The African air transport market is growing rapidly and there should be no barriers to access it. The implementation of the SAATM will create a liberalised environment, benefitting African aviation.



**Abderahmane Berthé:**  
"There is an urgent need to address many obstacles, so our members can return to profitability. These include full implementation of the single African air transport market."



CONTINUED FROM PAGE 39

**What progress has been made towards making the SAATM a reality?**

So far, 26 countries have committed to fully implement the Yamoussoukro Decision [the regulation that underpins intra-African liberalisation]. The aviation industry in those states makes up more than 80% of international traffic to and from Africa, and more states are expected to sign up.

On May 28 this year, 14 African countries signed a SAATM memorandum of implementation (MOI). These comprise Benin, Cape Verde, Central African Republic, Congo, Côte d'Ivoire, Ethiopia, Ghana, Guinea, Liberia, Mali, Niger, Rwanda, Sierra Leone and Togo.

By signing the MOI, these states have agreed to harmonise all bilateral air services agreements, ensuring the removal of any restrictions that are not in compliance with the Yamoussoukro Decision. This is a key measure for the SAATM to operate effectively. AFRAA supports the SAATM, because African airlines will benefit from it.

**Are there any other major African initiatives under way?**

The African Union's (AU) African passport and the establishment of the African continental free trade area (CFTA) are other components that go hand-in-hand with the thrust towards the SAATM, as air transport is a critical facilitator to the movement of people and goods in this vast continent.

Intra-African trade currently stands at 12-15% of total trade, compared to 60% for Europe, 40% for North America and 30% for the Association of South East Asian Nations (ASEAN), according to the World Trade Organisation (WTO). Enhancing trade can contribute significantly to sustainable economic growth.

**What can airlines and AFRAA do to push things along?**

From these new developments, African airlines need to better cooperate to improve the connectivity within the African continent. The role of AFRAA is to facilitate this cooperation and create a conducive environment for airlines.

We foresee more routes being opened between African cities and better harmonised networks arising from increased cooperation between African carriers.

But, as you are aware, the aviation business also depends on external factors like fuel cost, political stability and the state of African economies.

**What major projects is AFRAA currently working on?**

AFRAA is currently working with other industry stakeholders on the implementation of the SAATM, which needs to be disseminated to airlines and states. Others key priority actions on which we are working with various stakeholders include:

**SOMMAIRE****MA VISION POUR L'AFRAA**

*Abderahmane Berthé a pris la direction de l'AFRAA en janvier dernier. Il a déclaré à Victoria Moores que le lancement du SAATM est un tournant majeur et sera bénéfique pour l'aviation africaine.*

**Une nouvelle structure organisationnelle et un nouveau plan d'action sont mis en œuvre depuis son arrivée pour aligner les objectifs de l'AFRAA sur les principaux problèmes de l'industrie.**

**Abderahmane Berthé espère que le 50ème AGA prévu au Maroc, en novembre 2018, sur le thème « Renforcer l'aviation africaine dans un environnement libéralisé » sera une réussite. Les compagnies aériennes africaines devraient réaffirmer la nécessité d'être plus innovantes au niveau des services, tout en gérant leurs coûts et assurer la compétitivité.**

**Il est urgent, selon lui, que les membres retrouvent la rentabilité à travers une mise en œuvre intégrale du SAATM, en résolvant le problème des fonds bloqués, en abordant les taxes sur les passagers, les redevances et les prix du carburant élevés, et la mauvaise infrastructure de plusieurs aéroports. L'Afrique représente 16,75% de la population mondiale, mais seulement 2 à 4% du marché mondial du transport aérien. Il ajoute que l'aviation africaine doit être renforcée pour accroître la part de marché des compagnies aériennes africaines, qui représentent actuellement moins de 20% du trafic international.**

□ □ □ □ □

**L'AFRAA soutient le SAATM, car les compagnies aériennes africaines en bénéficieront, et par extension tout le continent à travers une consolidation du commerce intra-africain et un développement économique durable. Le passeport africain de l'Union africaine et la création de la zone de libre-échange continentale africaine sont d'autres composantes essentielles.**

**L'AFRAA continuera de faciliter la coopération entre les compagnies pour améliorer la connectivité intra-africaine et mieux harmoniser les réseaux et créer un environnement favorable aux compagnies aériennes. Abderahmane Berthé souligne toutefois que le secteur de l'aviation dépend également de facteurs externes tels que le coût du carburant, la stabilité politique et l'état des économies africaines.**

**Parmi les autres actions prioritaires : le soutien aux compagnies aériennes pour maintenir des normes de sécurité élevées, le rapatriement des fonds bloqués des compagnies, la mise en œuvre du système CORSIA de l'OACI, le renforcement des capacités humaines, l'amélioration de la coopération entre les compagnies aériennes pour une meilleure connectivité intra-africaine et le lobbying pour réduire les taxes et les charges sur l'aviation africaine.**

**Son ambition est de faire de l'AFRAA un acteur clé pour les décideurs et les acteurs de l'industrie en Afrique.**

- Supporting airlines to maintain high safety and security standards;
- Airline blocked funds repatriation;
- Implementation of the International Civil Aviation Organization's carbon offsetting and reduction scheme for international aviation (CORSIA);
- Human-capacity building, for the benefit of airlines;
- Facilitating cooperation between airlines for a better intra-Africa connectivity; and
- Lobbying to reduce taxes and charges on African aviation.

**How is your first year as AFRAA secretary general progressing?**

I have been in office since January 2018. A new organisational structure and action plan are being implemented to align AFRAA's objectives with key industry issues. Collaboration with other industry stakeholders is also progressing very well.

**Do you see any scope for formal tie-ups or mergers with other African airline associations?**

We are working closely with the Arab Air Carriers Organization (AACO), Airports Council International (ACI) Africa, the International Air Transport Association (IATA), the Airlines Association of Southern Africa (AASA), regional boards of airline representatives (BAR associations) and travel agency associations, among others.

A number of joint events are scheduled to take place, such as the forthcoming AFRAA/AACO/IATA joint forum on business transformation, which will take place in Cairo, Egypt, in October this year.

AFRAA also collaborates closely with other industry partner organisations, such as the African Union Commission (AUC), the African Civil Aviation Commission (AFCAC) and the International Civil Aviation Organization (ICAO).

AFRAA and many other similar airline associations around the world have also decided to have an annual meeting to discuss common-interest subjects. The first meeting has been scheduled for January 2019.

**What ambitions do you have for the future of the association?**

My ambition is to make AFRAA a key player for decision-makers and industry players in Africa. African airlines are facing a lot of challenges; AFRAA will continue to support its members and create value for them.

**Do you have a favourite memory from your time there so far?**

My favourite memory was the historic launch of the SAATM, which took place at the 30th ordinary session of the AU in Addis Ababa, Ethiopia in January 2018. This event was a milestone for African aviation. ■



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# THE SOUTHERN STARS

*The last 12 months have been especially challenging for some of southern Africa's airlines. Victoria Moores caught up with Airlines Association of Southern Africa (AASA) CEO, Chris Zweigenthal, to hear about his outlook for the region, ahead of the body's upcoming annual general assembly (AGA).*

**Where is this year's meeting to take place?**

The 48th AASA AGA is being held from October 11 to 14 2018 at the AVANI Victoria Falls Resort in Livingstone, Zambia, alongside the mighty Zambezi River.

It is at the site of the magnificent Victoria Falls, one of the seven natural wonders of the world.

This year's conference is being hosted by South African Airways (SAA). We are looking forward to welcoming around 300 guests to the event.

**What is the main topic to be discussed?**

The theme of the conference will be 'Outshining the rest of the world: How can African airlines leapfrog and deliver a world-class customer experience?'

**Why did you choose this theme?**

We are all aware of the significant challenges facing African airlines.

They are competing – particularly for intra-African traffic – not only with each other, but also with international airlines that operate multiple frequency services from their hubs to many destinations across Africa.

**How can African airlines compete more effectively?**

There are several opportunities for our airlines to achieve sustainability.

In a global airline industry, where there is so much focus on commoditised offerings – particularly in fields like technology, mobile and social media – the soft, customer-friendly touch has been lost.

We believe that Africa has the inherent ability, desire and inner-passion to provide a personal and differentiated service-offering to customers, combined with this high-tech product offering.

This conference will explore these issues. It will also identify ideas and actions, so that African airlines can use improved customer service to capitalise on new opportunities.

**What are the main challenges that your South African members have faced since the last AGA?**

In South Africa over the past year, airlines have experienced fluctuating fortunes.

South African GDP growth has hovered from just below 1% per annum to around 1.5%. This lack of real growth has somewhat



**“ We believe that Africa has the inherent ability, desire and inner-passion to provide a personal and differentiated service-offering to customers. ”**

CHRIS ZWEIGENTHAL

constrained the airline industry there to a point where there was only an overall 1% growth in passenger traffic at the major South African airports for the year ending June 2018.

Some airlines, such as South African Airways and SA Express, are experiencing well-documented financial challenges and are implementing turnaround plans under new leadership to return to profitability.

Others, such as Airlink, CemAir, Comair, FlySafair, Kulula and Mango Airlines, operate profitably in this competitive market.

**How about the broader southern African region?**

Within the region, our airlines, such as Air Botswana, Air Namibia, Air Zimbabwe, LAM Mozambique Airlines, Proflight Zambia, Swaziland Airlink and TAAG Angola Airlines, continue to operate with their own specific challenges in competitive regional and international markets.

They all operate within the relatively low-volume African market, with only 3% of global market share.

They also face a high-cost environment, specifically high dollar-based costs relative to their local softer currencies.

This affects aircraft procurement, leasing, distribution, maintenance, infrastructure charges, levies and taxes.

Other focus areas include a need to ensure continuous improvement of safety and security, the training and retention of skills, and a sustainable business model.

**What were the outcomes of the 2017 AGA?**

The theme for the 2017 AGA was 'Building human capital for African airlines.' The major conclusions and action items were:

- That consideration be given for a programme to coordinate pilot training programmes across airlines. This could extend to critical scarce-skills areas as well;
- Initialisation and coordination of a structured mentorship programme for transfer of skills to new aviation professionals;
- Continued support and involvement in outreach programmes to address the transformation objective.



# CAN SHINE A LIGHT...

## What progress has been made since then?

Over the past year, there have been some discussions over the coordination of pilot training programmes, but it has been acknowledged that this is a complex issue.

It will require further in-depth discussion, especially given the different initiatives and programmes being undertaken by the various airlines.

In the field of other scarce skills, AASA has been very active in sponsoring training programmes for its member airlines, particularly in the areas of customer care; airline commercial management; station ground-handling management; pricing and revenue management; airline business models and competitive strategies; network, fleet and schedule planning; deregulation and open skies; alliances, equity partnerships and strategic

**The airline industry has shown itself to be resilient through challenging times.**

partnerships; and airline leadership.

These have been well received and well attended.

In respect of outreach programmes, AASA continues to take a very active role, specifically in the 'wonders of aviation' initiative, which focuses on showcasing the magic of flight to previously disadvantaged communities.

## What is AASA's outlook for its members over the coming year?

The year ahead will continue to provide challenges for aviation, including our AASA members, in the context of a very uncertain global environment, filled with conflict and tension between some nations, whether they be friend or foe.

However, the airline industry has shown itself to be resilient through challenging times. In an

environment where The International Air Transport Association (IATA) is expecting the global airline industry to record a profit of \$33.8 billion for 2018, African Airlines will collectively record a net loss of about \$100 million, with southern African airlines expected to record a \$300 million loss in 2018.

## What will you be working on?

During the next year, the focus will be on improving safety and security, actions to implement the single African air transport market (SAATM), compliance with the reporting requirements for the International Civil Aviation Organization (ICAO) carbon offsetting and reduction scheme for international aviation (CORSA) and skills development.

We also need to ensure that the industry keeps pace with technological development, as far as possible, in line with international best practice, while leveraging customer-service excellence as a differentiator against their competitors. ■

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*Rolls-Royce's senior market analyst for Middle East & Africa, **Taieb Ben Sghaier**, outlines the potential for the civil aviation sector across the African continent.*

# It's time for some joining-up thinking...

The African aviation market is growing at a remarkable rate. It is expected to increase at 5.9% year-on-year, growing from 130 million annual passengers today to almost 500 million within the next 20 years.

But sustainable growth requires the industry to take a hard look at the market and ask itself: Are there now too many players competing for the same demand? Is there too much capacity in the marketplace? It is time to look at re-launching the idea of an African Airline Alliance?

The most important driver of passenger growth is the growing middle class: Deloitte reports that Africa's middle class has tripled over the last 20 years, with one-in-three people now considered to be living above the poverty line – but not among the wealthy.

The current trajectory suggests that the African middle class will grow to 42% of Africa's population by 2060.

Affordability is also a key factor. Low-cost carriers (LCCs) are making flying more accessible. For example, more than 30% of Fastjet's passengers in 2016 were first-time flyers.

Connectivity is also improving and African carriers are winning back their share of their home markets. According to the African Airlines Association (AFRAA), about 90% of flights within the continent are operated by African airlines. The home carriers also account for just under half of the flights coming into Africa from other continents.

Two extremely interesting markets have been the routes from Africa to China and from Africa to the US. Most airlines want to break into these two markets. However, a closer look at the Chinese-African market shows that it is a tough nut to crack. Available seat kilometres – a key indicator of airline capacity on a given route – have risen six times over the last seven years, but this number has plateaued since 2015.

One of the world's largest global airline alliances, Star Alliance, has managed to dominate these routes with Ethiopian Airlines, EgyptAir and Air China driving traffic between the regions, whereas others have had to abandon their efforts.

In order to make this market work, the foundations must be in place. An airline



## SOMMAIRE

## IL EST TEMPS DE METTRE EN COMMUN NOS IDÉES

Taieb Ben Sghaier, un senior market analyst de Rolls-Royce pour le Moyen-Orient et l'Afrique nous décline le potentiel du secteur du transport aérien sur le continent africain.

Le marché aéronautique africain devrait augmenter annuellement de 5,9% passant de 130 millions de passagers à près de 500 millions de passagers par an au cours des 20 prochaines années. Il est stimulé essentiellement par la croissance de la classe moyenne. Selon Deloitte, celle-ci a triplé au cours des 30 dernières années et atteindra 42% de la population africaine d'ici 2060.

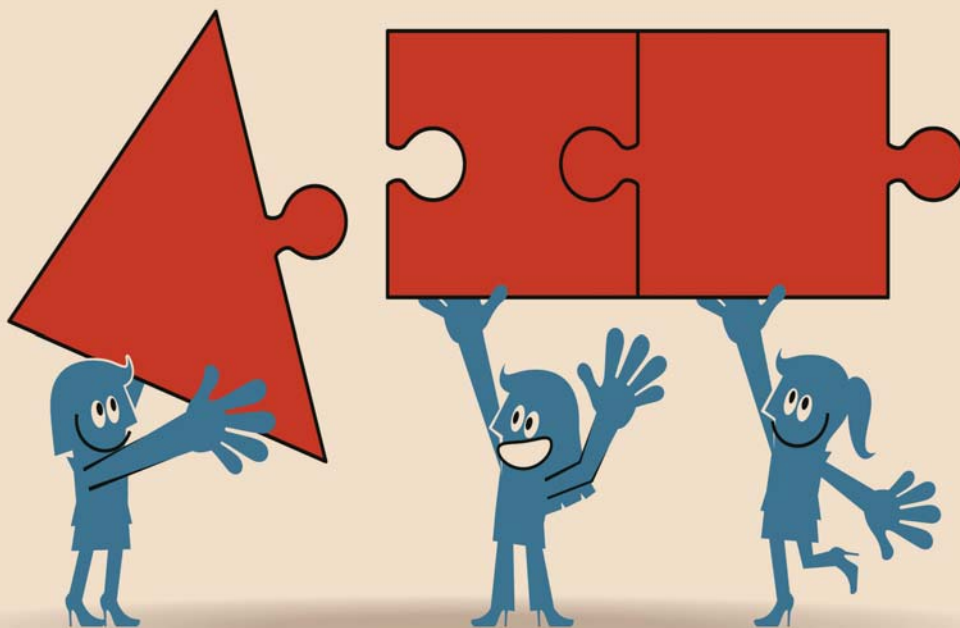
Le prix raisonnable est également un facteur clé. La connectivité s'améliore également et les compagnies africaines regagnent du terrain sur le marché intérieur. Selon l'AFRAA, environ 90% des vols intra-africains sont opérés par des transporteurs africains.

Deux marchés ont été intéressants à suivre : les routes entre l'Afrique et la Chine et entre l'Afrique et les États-Unis. La plupart des compagnies veulent pénétrer ces deux marchés. Cependant, les « ASK » qui ont été multipliées par six au cours des sept dernières années se sont stabilisées depuis 2015. Star Alliance a gardé sa suprématie sur ces routes avec Ethiopian, EgyptAir et Air China alors que d'autres ont dû abandonner. La clé de la réussite est d'être dans un hub solide, avec une forte demande et une faible saisonnalité. Il est également judicieux de faire partie d'une alliance majeure et d'avoir plusieurs partenaires en partage de code.

Cette concurrence est excellente pour les grands acteurs de l'industrie aéronautique en particulier les avionneurs et les motoristes comme Rolls-Royce. L'Afrique aura besoin d'environ 1000 nouveaux avions au cours des 20 prochaines années. Les avions monocouloirs se tailleront la part du lion mais les compagnies auront également besoin d'avions long-courriers dont les A350-XWB et les A330neo. Ceux-ci sont motorisés exclusivement par Rolls-Royce ainsi que le B787 avec le nouveau Trent 1000-TEN.

La part de marché de Rolls-Royce a considérablement augmenté en Afrique. Elle représente aujourd'hui environ 40% de la flotte en service. Davantage de clients choisissent les moteurs Rolls-Royce de dernière génération. 60 avions long-courriers sont en service aujourd'hui et 50 autres avions équipés de moteur Trent ont été commandés. 30 nouveaux avions à large fuselage ont été livrés en Afrique durant les trois dernières années.

La libéralisation du ciel contribuera à créer une culture de la concurrence. Ceux qui y résisteront seront les perdants. Aussi, le marché africain ne pourra contenir plus de 50 compagnies. Les petites compagnies bénéficieront des concepts de consolidation ou d'alliance.



needs a strong hub, with strong demand and low seasonality. But, it seems, the most successful pathway to success is to be part of a major alliance and have multiple code sharing partners. These elements combined create sustainably.

Practically, each sub-region in Africa today has one or two major hubs; with Casablanca and Cairo being the front-runners in the north, and Addis Ababa and Nairobi competing fiercely in the east. Johannesburg is probably unrivalled in southern Africa. However, in west Africa, the jury is still out as Lomé, Cotonou, Abidjan, Lagos and Accra are developing rapidly and all show much promise.

All this competition is great for original equipment manufacturers (OEMs), which include airframers such as Airbus, Boeing, Embraer and Bombardier, as well as engine makers such as Rolls-Royce.

In Rolls-Royce's most recent forecasts, we have concluded that Africa will need around 1,000 new aircraft over the next 20 years.

Of these, narrow-body or single-aisle aircraft will make up the lion's share. However, we will see more and more national airlines, such as Air Tanzania, embracing wide-body aircraft as they launch new international routes and seek to meet rising demand.

Of course, it is not just about new aircraft; there has been a very healthy market for 'second-hand' or 'transitioning' aircraft. For instance, our Trent-powered Boeing 777s and A330s, and AE3007 fleets have been particularly successful in moving from one operator to the next.

Liberalisation of the skies will help to drive a culture of competition. Also, it is widely agreed that Africa's market cannot sustain more than 50 airlines.

It is natural for any maturing market to see a level of consolidation and I foresee a Lufthansa Group-style alliance where smaller national airlines will benefit from growing under the wing of a stronger overarching airline group. There may be resistance to this at first, but examples such as the HNA Group in China and LATAM in Latin America show signs that this concept can work.

**I foresee a Lufthansa Group-style alliance where smaller national airlines will benefit from growing under the wing of a stronger overarching airline group.**



# **AFRICAN AIR CHIEFS**

Conference, 27-28 February 2019  
Kigali, Rwanda



## **When your mission is special - you need to be talking to the right people**

Africa's Air Chiefs will be in Kigali, Rwanda for Africa's inaugural Air Chiefs Conference as part of the successful Aviation Africa Summit.

This invite-only conference will be looking into the major issues and equipment needs of African Air Forces and hearing from the people with hands on experience and with the right products for the right mission.

Supported by leading OEMs and hosted by the Rwandan government and its Ministry of Defence, the event will enable manufacturers from around the world to come together with the key decision makers.





Two-seat Mirage F1 trainers have been acquired by the Paramount Group from France and Draken International from Spain.

PICTURE: DRAKEN INTERNATIONAL.

## Why the Mirage F1 is of Paramount importance

*Paramount Group, the South African-based global aerospace and defence company, has become the prime contractor for the maintenance, repair and modernisation of recently retired Mirage F1 supersonic multi-role fighter aircraft.*

**David Oliver** reports.

**D**eveloped 50 years ago by the French manufacturer, Dassault, for the France's Armée de l'Air (French Air Force), more than 730 Mirage F1 supersonic multi-role fighter aircraft were produced by 1990.

Many of them were exported to 10 countries, including South Africa and Spain.

With a maximum speed of 1,450mph or Mach 2.2, the highly manoeuvrable F1 was supersonic at sea level and had an impressive climb rate of 42,000ft/min.

Paramount Group acquired the entire South African Air Force (SAAF) Mirage F1AZ fleet, along with engines, spares, simulators and training aids. The Mirage F1 represented an ideal solution for low-cost supersonic fighter capability, and Paramount offers a complete air-power package, with full training and technical support for the aircraft.

Paramount Aerospace Systems, a subsidiary of Paramount Group, has been supporting a number of African air forces, including those of the Republic of Congo and Gabon, in the acquisition, training, maintenance and technical operation of former SAAF F1AZ fighter aircraft for many years. In this context, Paramount also operates a fighter aircraft pilot training academy in South Africa, the only one of its kind on the African continent.

The Paramount Aviation Academy allows students to train within a military environment and according to military doctrine throughout. In October 2017, the group announced a significant enhancement of its pilot training capability through its acquisition of four former French Air Force two-seat Mirage F1B aircraft.

Brian Greyling, CEO of Paramount Aerospace Systems, said: "One of the most important trends in today's military aviation market is the increasing utilisation of legacy aircraft for adversary training by air forces. The new acquisition of the Mirage F1 aircraft will inject additional 'top gun' capability into Paramount Group's advanced pilot training programmes.

"We are now recognised as the only privately-owned aerospace company in the world that is capable of offering military-type aircraft training from ab initio to supersonic fighter capability."

Ivor Ichikowitz, group chairman of Paramount Group, said: "The global economic slowdown has reduced the defence

budgets of most countries in the world, resulting in cuts across many defence sectors including aircraft, naval vessels and military vehicles. Such budgetary constraints are driving the decrease in procurement of new military aircraft, helicopters and UAVs, and place huge emphasis on more affordable solutions, such as maintenance, repair and modernisation of existing equipment and the associated training requirements.

"Through decades of expertise, continuous innovation and the strengthening of our aircraft upgrade, maintenance, integration, logistics and training solutions, we are optimally positioned to provide this capability to any air force in the world.

"We are very proud of this world-class African capability, which is critical for extending the service life of aircraft while reducing the high acquisition costs of new equipment. The company is well positioned to become one of the major global players in this space, and the acquisition and placing of these aircraft into service furthers this objective."

□□□□□

In April 2018, Draken International, a major US-based provider of adversary air services, signed an agreement with Paramount Aerospace Systems for the overhaul and on-going engineering support of its recently acquired fleet of Mirage F1M aircraft from the Spanish Air Force.

Draken acquired 22 single-seat and two-seat F1M fighter aircraft in an effort to enhance adversary services for its US Department of Defense (DoD) and allied nation customers.

In 1996, 51 Spanish single-seat F1CE and four two-seat F1EE aircraft were upgraded by Thomson-CSF, now Thales Group, to F1M configuration. This featured a number of improvements, including advanced head-up display (HUD) with integrated radar, HOTAS system, modernised Cyrano IVM radar for accurate ground-attack capability in four different modes, night vision goggles (NVG) compatibility, inertial navigator Sagem ULISS 47 and AIM-9 JULI Sidewinder compatibility.

The Mirage F1Ms, along with recent purchase of 12 supersonic radar-equipped former SAAF Denel Cheetah fighter aircraft, will increase Draken's fleet size to more than 150 fighter aircraft. ■



Senegal is buying a single PT Dirgantara Indonesia (PTDI) built CN235-220 maritime patrol aircraft (left). It is not yet clear whether the two NC-212-200 maritime surveillance aircraft being acquired by Senegal will be based on the latest NC-212i standard aircraft.

## Military gains for Indonesia in Africa

*Indonesia is making inroads into the African military transport market.*  
**Jon Lake reports.**

**D**uring the Indonesia-Africa Forum held earlier this year in Bali, Indonesia announced the \$75 million sale of two NC-212-200 maritime surveillance aircraft and a CN235-220 maritime patrol aircraft to Senegal, plus a transport-configured CN235-220 to the Ivory Coast.

Formal contracts for the sales were expected to be signed as *African Aerospace* was going to press.

Close links between Spanish aircraft manufacturer, CASA, and Indonesian Aerospace – or PT Dirgantara Indonesia, also known as Persero (IPTN) – led to Indonesian licence production of the CASA C-212 Aviocar. This is now known as the C212, or as the NC-212 in Indonesian-built form.

It also led to the co-development of the larger CN-235 tactical transport (now designated as the CN235 when offered by Airbus).

Some 477 C212s and NC-212s have been produced for 92 operators over a 45-year production lifespan.

This total includes at least 103 NC212-200s produced by PT Dirgantara Indonesia (PTDI), the successor to IPTN.

In 2010, Airbus Military (Airbus Defence succeeded CASA) said that it could no longer afford to produce the C212 in Europe and the last C-212 produced in Spain was delivered in late December 2012. All necessary jigs and production tooling for the NC212-400 was relocated from San Pablo to Bandung and PTDI became the sole source for the C212/NC-212 family.

PTDI stopped production of the NC212-200 and NC212-400 in 2014, concentrating on the more advanced NC212i, which has new digital avionics and a cabin for up to 28 passengers.

On the CN-235, PTDI manufactures the outer wings, horizontal stabilisers, vertical fins and doors, while Airbus produces noses, cockpit sections, and centre wing boxes.

C212s serve in Angola, Botswana, Chad, Djibouti, Equatorial Guinea, Lesotho, South Africa and Zimbabwe. Aircraft delivered to Bophuthatswana, Transkei, and Venda were absorbed into the South African Air Force.

CN235s are in service in Botswana, Burkina Faso, Cameroon, Gabon, Guinea, Morocco and Senegal, and were also delivered to the Bophuthatswana and South African air forces, which have retired the type with civilian aircraft going to Madagascar's Tiko Air and Air Namibia.

The C295 is a derivative of the CN235 with a stretched

fuselage, 50% more payload capability and new Pratt & Whitney Canada PW127G turboprop engines. Airbus has delivered significant numbers to African air arms, including those of Algeria, Angola, Egypt, Equatorial Guinea, Ghana and Mali.

PTDI is now seeking to increase its share of this lucrative market. Company president, Elfen Goentoro, said “the African market is promising”, explaining: “Geographically, African countries and Indonesia have similarities, so they need several light and medium turboprop aircraft. We are offering countries in Africa the development of human resource skills and knowledge in the aircraft manufacturing industry.”

He also noted there were opportunities for African countries in the upgrade, modification and maintenance and overhaul of the NC-212 and CN-235.



PTDI delivered a CN235-220 transport aircraft to the Senegal Air Force in December 2016, following a November 2014 order placed via AD Trade Belgium. It was delivered in a quick-change configuration with a reconfigurable interior, allowing it to undertake VIP, transport, paratrooping, and medical evacuation missions.

In August 2017, Senegal placed a further order with AD Trade Belgium for a single CN235-220 maritime patrol aircraft.

The next customer for an Indonesian-built CN-235 was Burkina Faso, which acquired two aircraft from PTDI and AD Trade Belgium.

The latest orders were again signed with the Belgian company and formed the basis of the framework agreement during the Indonesia-Africa Forum in April 2018.

The addition of two NC-212-200 maritime surveillance aircraft and a CN235-220 maritime patrol aircraft to the Armée de L'Air du Senegal will transform the west African nation's surveillance capabilities. The aircraft are expected to be based at Dakar/Yoff.

Force Aérienne de la Côte d'Ivoire (previously known as the Groupement Aérien de Transport et de Liaison) is another small air arm, and the addition of a CN-235 at Base Aérienne de Abidjan will mark a major improvement in capability. The unit currently operates only Cessna 402s and 421s and SA365 and IAR330 helicopters. ■



## Botswana replaces crashed C212 with second-hand Airbus

The Botswana Defence Force Air Wing has acquired a second-hand Airbus CAS C-212 light turboprop transport aircraft to replace one similar that crashed in 2017.

Botswana originally received a pair of short take-off and landing (STOL) C212-300s in June 1993. However, one of these was lost on February 9 this year when it crashed near Thebeaphatshwa Air Base with the loss of all three crew.

The aircraft had been scheduled to transport vice president Mokgweetsi Masisi from Gaborone to Tsabong for the Botswana Democratic Party (BDP) National Youth League Congress. It was later reported that the flight from Thebeaphatshwa AB to Gaborone had not been properly authorised, and air traffic control at Sir Seretse Khama International Airport was not expecting the aircraft.

The new aircraft was built in 1998 and had fewer than 500 hours on its airframe. It is a C212-400, an upgraded version with 925shp (690kW) TPE331-12JR-701C engines, increased payload and upgraded avionics.

Both variants were originally built in tandem, before the series 400 replaced the series 300 in production from 1998.

The new Botswana Defence Force C212 was previously used for carrying skydivers and parachutists and was owned by Fayard Enterprises of Wake Forest, North Carolina.

The C-212-400 flew from the US to Botswana via Cape Verde in February 2018. The aircraft was seen at Lanseria International Airport near Johannesburg, South Africa, before the final leg of its journey, undergoing test flights following modifications.

The Botswana Defence Force Air Wing's transport force is based at the main base – the Maparangwane Air Base at Thebeaphatshwa/Molepolole – although other airports are frequently used by its aircraft, including Francistown, the Sir Seretse Khama

International Airport at Gaborone, and an airfield near Maun, which is used as a forward operating location.

Z1 Squadron operated the Pilatus Britten Norman BN-2A/B Islander/Defender, but these aircraft are believed to have been withdrawn from use. This leaves fixed-wing transport aircraft operating with Z10 Squadron, which comprises two C212s, two CN235M-100s and three ex-USAF C-130B Hercules aircraft.

The co-located Z21 Squadron has a combination of six Bell 412EP and 412SP transport helicopters.



Like for like Botswana replaces crashed C212



As you were! No lifting of the replacement arms embargo.

## No deal on lifting CAR arms embargo

An arms embargo placed on the Central African Republic is to remain in place, blocking a proposed Chinese weapons package being delivered to the country's forces.

The UN Security Council originally imposed the sanctions in 2013 when the country descended into civil war. The embargo was briefly and temporarily relaxed by the UN sanctions committee in 2017 to allow a Russian weapons package to reach the armed forces.

The Central African Republic then asked the Security Council to approve a further package of weapons shipments, this time to be supplied by China.

However, the Security Council ruled that out and unanimously voted to extend its sanctions until January 31 2019.

The Central African Republic's defence minister, Marie Noelle Koyara, explained that the proposed weapons would help to strengthen national forces who were "confronted with the strength and escalating violence of armed groups whose illegal activities pose a threat to civil order".

The weapons would, she said, safeguard the security of the people and ensure the progressive enforcement of state authority.

The request for the Chinese weaponry was backed by the European Union military training mission and by the UN peacekeeping operation MINUCSA, but was opposed by the US and France, who questioned the need for anti-aircraft weapons, as well as anti-personnel grenades and rockets.

The UK expressed reservations about the proposed unescorted delivery through Cameroon.

The Central African Republic Government controls about one fifth of the country and relies heavily on MINUCSA. About a dozen main militia groups control the remainder, competing for control of mineral resources – and for the revenue from extortion and criminal activity.

The Central African Republic Air Force is virtually moribund, with only a single Eurocopter AS 350 Ecureuil helicopter and a handful of light aircraft airworthy.

*US military pilots in Djibouti have reported being targeted by high-powered lasers – apparently from a nearby Chinese base.*

**Alan Dron** reports.

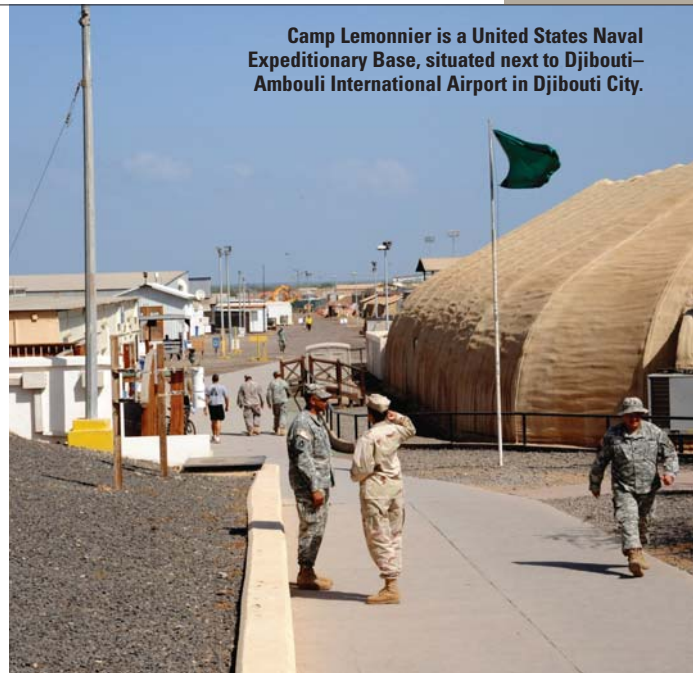
## US ANGERED BY LASER TARGETING OF PILOTS

**P**ilots of military aircraft do not expect to have lasers fired at them – except in war. That, however, has been the case on several occasions in the northeast African state of Djibouti, when aircrew on the landing approach to Camp Lemonnier, the largest US base on the continent, have had lasers dazzling them.

Djibouti, for years a largely overlooked corner of the continent, has become a highly strategic location. Just across the Bab al-Mandeb Strait from Yemen, where a Saudi Arabian-led coalition is fighting Iranian-backed Houthi rebels, the US has for some years been building up its presence there, flying both reconnaissance drones and manned intelligence-gathering aircraft.

In the past few years, however, China has had an increasing presence in the tiny state, pumping in money to support its economic development and increasing its influence – notably with the construction of its first overseas naval and military base that analysts say is large enough to hold a brigade of troops.

China describes it as a logistics base to supply both its



Camp Lemonnier is a United States Naval Expeditionary Base, situated next to Djibouti–Ambouli International Airport in Djibouti City.

naval vessels escorting merchant ships through pirate-ridden waters and its estimated 2,400 troops engaged on African peacekeeping duties.

In late spring, the aircrew of a US C-130 Hercules transport aircraft approaching their base reported being ‘lased’ by military-grade beams, apparently originating from the Chinese base, which lies around six miles (10km) from its US counterpart.

“We had three incidents of pilots reporting lasers inside the cockpit when they were on the approach to our base,” said Lieutenant Commander John Supple, public affairs officer for Africom in Djibouti. “We’ve asked the authorities to put out a notice to airmen (NOTAM) that around a certain spot near the Chinese base, pilots have been reporting lasing.”



While not wishing to accuse anyone, he said, he understood that the US State Department in Washington DC had issued a démarche – a formal diplomatic complaint – to the Chinese embassy over the incidents.

Asked if it was possible that the pilots had seen a beam from a typical laser pen of the sort that has been implicated in many incidents of airliner pilots being dazzled, Supple indicated that this was unlikely.

“We’re not low flying over the Chinese base. The fact that [the beam] makes it up to altitude gives some suggestion that it was high-powered,” he said, indicating that the US was ensuring pilots now had the right protective visors.

The incidents fit a pattern of Chinese behaviour where they continually push boundaries. Some US analysts fear that the Chinese will feel that if the US takes no firmer action than a diplomatic complaint over as direct an action as targeting US military aircraft, that they can act with impunity in future.

The unspoken message to African and other nations will be that if even the US can mount no effective response, then other nations have no chance of affecting Chinese policy in the region. ■

### SOMMAIRE

## PILOTES CIBLÉS, LES USA IRRITÉS

*Des pilotes militaires américains à Djibouti affirment avoir été pris pour cible par des lasers provenant apparemment d’une base chinoise.*

*Un reportage d’Alan Dron.*

**Cela s’est passé à plusieurs reprises à Djibouti lorsque des équipages en phase d’atterrissage à Camp Lemonnier, la plus grande base américaine d’Afrique, ont été éblouis par le laser.**

**Djibouti est devenu aujourd’hui une zone stratégique. La Chine a étendu sa présence et son influence depuis plusieurs années avec notamment beaucoup d’investissements et la construction de sa première base navale et militaire. 2400 soldats sont engagés dans des missions de maintien de la paix en Afrique.**

**Selon John Supple d’Africom, l’équipage d’un C-130 Hercules a déclaré avoir été visé par**

**des faisceaux laser et une demande a été faite aux autorités de publier un avis aux aviateurs passant près de la base chinoise. Les États-Unis ont veillé à ce que les pilotes soient munis de visières de protection.**

**Une plainte diplomatique semble avoir été déposée à l’ambassade de Chine.**

**Ces incidents à répétition est un message tacite adressé aux pays africains et à d’autres nations. Si les États-Unis ne peuvent pas intervenir efficacement dans ce type de situation, d’autres pays auront peu de chance d’influencer la politique chinoise dans la région.**



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*Many believe that Africa will be the big growth market for the global defence industry, thanks to burgeoning security requirements and vast oil and natural gas reserves.*

**Jon Lake** takes a look at the situation.

# AFRICA'S ARMS RACE

**A** number of nations are competing to meet emerging African defence requirements. China, in particular, is making real inroads on the continent and displacing Russia in many of its traditional markets.

But, while the African defence market has experienced rapid growth in some years, arms sales to the continent have proved to be variable, inconsistent and unpredictable. Thus, in 2015, the Stockholm International Peace Research Institute (SIPRI) judged that military hardware was flowing to African countries faster than to any other region, and that African governments and rebel groups had imported 45% more weapons in 2014 than they had done in 2005, though this still represented just 9% of global arms deliveries.

The previous year, *The Economist* reported that two out of three African countries had substantially increased military spending over the past decade and that the continent as a whole had raised military expenditure by 65%, which had stagnated for the previous 15 years.



Last year, however, in a world in which SIPRI reported a global rise in arms sales, Africa provided a major exception, recording a fall of 22% between 2008-12 and 2013-17.

Figures may not always be accurate, with a low level of participation in the UN register of conventional arms (UNROCA) among African nations. Only seven African countries, for example, ratified the UN arms trade treaty that came into force in December 2014.

On a volatile continent, different African nations have featured among the region's top buyers. In 2014, Uganda rode high in the list of big spenders, not least due to its assumption of the role of regional policeman, intervening in South Sudan, the Democratic Republic of Congo, the Central African Republic, and Somalia.

But the top of the list has remained more stable, with Algeria, Morocco and Nigeria accounting for



52%, 12% and 5.1% of African arms imports, respectively. These actors are, perhaps unsurprising, representing as they do some of the wealthiest of the continent's nations, all facing some degree of threat from insurgent forces.

For Algeria, that threat is posed by al-Qaeda in the Islamic Maghreb, which aims to overthrow the Algerian Government and institute an Islamic state.

In Morocco, the Polisario Front represents the main threat, aiming to establish a Sahrawi Arab Democratic Republic in the former Spanish Sahara.

Nigeria's arms imports grew by 42% between 2008-12 and 2013-17, and the country now reportedly spends twice as much on defence as it does on education, thanks largely to the on-going campaign it is waging against the Islamist Boko Haram insurgent group.

But outside of the wealthier African nations, and those receiving US support as part of its 'global war on terror', many African nations are economically weak and unable to buy advanced new equipment, while others are forced into illegal or black-market deals.

China has exploited demand at this lower end of the market, initially by offering cheaper and less sophisticated equipment than Russia could supply, but which was often a better fit for African militaries and air arms.

It has been able to build defence relationships

on the back of a wider and deeper economic and political engagement with Africa, providing much-needed trade and investment.

China now has the world's second-largest defence budget and its arms industry has grown apace. In 2017, the Chinese defence budget stood at \$150 billion, compared to the USA's \$602 billion.

With a strong domestic market for indigenously designed and manufactured weapons, China has gained growing importance as a global arms supplier in recent years. It is now ranked fifth among the world's arms-exporting nations with figures rising by 38% between 2008-12 and 2013-17.



This puts China behind the USA, Russia, France, and Germany, and ahead of the UK.

China sold weapons to 48 nations during 2013-17 (including 22 sub-Saharan African countries), and its arms exports to Africa rising by 55% between 2008-12 and 2013-17, increasing its share of the African market from 8.4% to 17%.

Its share of the sub-Saharan market has grown from 16% to 27%.

Two-thirds of African countries now operate some Chinese military equipment, much of which is relatively basic. The Harbin Y-12





China has supplied FTC-2000 advanced trainers to Sudan (top left) F-7NI jet fighters to Nigeria (above) and Harbin Y-12 transports to Namibia (left).

transport, for example, is operated by 11 African air arms (Republic of Congo, Djibouti, Eritrea, Ghana, Kenya, Mali, Mauritania, Namibia, Tanzania, Uganda and Zambia), while Sudan and Tanzania operate the larger Shaanxi Y-8.

The Harbin Z-9 helicopter serves in Cameroon, Ghana, Kenya, Mali, Mauritania, Namibia and Zambia.

The Chengdu F-7 (a MiG-21 copy) is, perhaps, the most basic supersonic fighter aircraft in service in Africa, and serves with six African air forces – Egypt, Namibia, Nigeria, Sudan, Tanzania and Zimbabwe.

The Hongdu JL-8, also known as the Karakorum K-8, jet trainer serves with six African air forces – Egypt, Ghana, Namibia, Sudan, Zambia and Zimbabwe, while Sudan also operates the rival Guizhou JL-9.

But China also includes more sophisticated weapons systems. The Rainbow CH-3 has been used operationally in Nigeria, and has been evaluated or purchased by Algeria and Egypt, while the more advanced Predator-like Rainbow CH-4UCAV is being actively marketed in Africa.

As well as exporting weapons to Africa, China has established a base in Djibouti and has increased the number of ‘advisors’ placed with African armed forces.

Russian arms exports to Africa, meanwhile, have been squeezed by increased Chinese and

western (especially US) exports, falling by 32% compared with 2008-12.

However, Russia does still account for 39% of total arms exports to the continent, which remains an important market for its arms industry.

Algeria is Russia’s most important client in Africa, taking 78% of its arms transfers to Africa in 2013-17. Last year, Russia delivered six Su-30MKA fighters and six Mi-28NE attack helicopters to Algeria, as well as T-90 tanks, rocket launchers, and surface-to-air and ballistic missile systems.

Angola also began taking delivery of Su-30s, while Egypt is receiving large numbers of MiG-29M2 fighters and Kamov Ka-52 attack helicopters.

Elsewhere on the continent, small numbers of Mi-17/171 and Mi-24/35 helicopters have been delivered to Burkina Faso, Kenya, Nigeria and Mali.

Israel has been increasing its defence exports in recent years, mainly to the Asia Pacific region, which took about 58% of Israel’s arms exports in 2017.

Europe took 21%, with North America accounting for 14%, Latin America for 2% and Africa 5%.

The Israeli ministry of defence reportedly plans to increase exports of military hardware to Africa and, in March, Israeli Defence Minister, Avigdor Liberman, visited Tanzania, Rwanda, and Zambia to discuss security cooperation and weapons sales.

Rwanda already uses Israeli assault rifles and self-propelled howitzers, and Israel hopes to export more weapons there.

Cameroon, Chad, Ethiopia, and Senegal have taken delivery of Israeli armoured and combat vehicles, while Angola has received Cessna Citations equipped with Israeli avionics and mission systems for maritime surveillance.

The US and European share of arms exports to Africa increased from 34% to 37% between 1999-2002 and 2003-2006. The US – the world’s leading source of arms exports – accounted for just 11% of arms exports to Africa in 2013-17, growing by 25% over the period. These exports included small batches of weapons and eight helicopters for Kenya and five for Uganda, which were supplied as US military aid.



At the same time, the US is becoming more engaged in Africa, hosting and facilitating multi-national exercises and encouraging greater security cooperation. The purchase of US equipment is likely to increase as its new allies seek to achieve greater interoperability.

Defence cooperation between the US and Africa increased after the establishment of Africa Command (AFRICOM) in 2007, with the creation of a network of forward operating bases.

US special forces have played an ever-greater role in training and assisting allied forces, especially in combat operations against Islamist insurgents. US troops deployed in Algeria, Burundi, Cameroon, Chad, Congo, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Libya, Mali, Niger, Somalia, Sudan, South Sudan, Tunisia and Uganda qualify for combat pay. ■

The Kenyan C-27Js will be the first equipped with a new avionics suite that allows full compliance with new civil aviation regulations and military requirements.



# Secret Spartans for

*Kenyan Treasury Secretary, Henry Rotich, has revealed the previously undisclosed acquisition of two or three Alenia C-27J Spartan tactical transport aircraft and an undisclosed number of Agusta Westland AW139 helicopters (thought to be four). Jon Lake reports.*

The revelations came in a report submitted to the parliamentary public accounts committee on June 26.

The acquisitions were reportedly made between November 2017 and February 2018, but have not been confirmed by Leonardo (the parent company of both Alenia and AgustaWestland).

Kenya's Spartans will be delivered early next year and are expected to replace four de Havilland Canada DHC-5D Buffalos, based at Moi Air Base, Mombasa.

The Kenya Air Force transport element operates three de Havilland Canada DHC-8-103s, and has also received 12 Harbin Y-12 and Y-12-II light transports, though one of these crashed near Marsabit on April 10 2006. Two PZL M28s are reportedly on order.

The Kenyan C-27Js will be the first equipped with a new avionics suite that allows full

compliance with new civil aviation regulations and military requirements. It has also been reported that these aircraft will receive unspecified modifications intended to make them more efficient and cost-effective.

The Spartan first flew on September 24, 1999 and was developed from the Alenia G.222/C-27A. It used the Rolls-Royce AE 2100 engine and Lockheed Martin C-130J Super Hercules six-blade propeller, together with a fully digital MIL-STD-1553 systems and avionics architecture, and an updated cargo compartment.

The C-27J has a maximum payload of 11,500kg, though the normal payload is 9,000kg. The aircraft now has excellent 'hot-and-high' performance, as well as 30% lower operating costs than the G.222, 35% greater range and a 15% faster cruising speed.

The Spartan can carry up to 60 troops in high-

density configuration or up to 46 paratroopers or 36 stretchers and six attendants.

Kenya is the fourth African customer for the C-27J after Chad, Morocco and Zambia. The aircraft has also been ordered by Italy, Australia, Greece, Bulgaria, Lithuania, Mexico, Peru, Romania, Slovakia and the US Coast Guard for a total of 85 aircraft on order.

The number of AW139 helicopters covered by this order, and their destination, remains unknown. The reported cost would imply an order for four helicopters.

The Kenyan National Police Service Air Wing received two AW139s in June 2018, and had taken delivery of one AW139 (5Y-NPS) before that, in April 2016 (though this aircraft was lost in an accident in September 2016).

The new AW139s were delivered in two different configurations, 5Y-PEU configured for VIP use and 5Y-DIG for advanced mission operations.

The new order could be for the same customer. If so, they would be based at Nairobi's Wilson Airport, and used for public order policing, security and surveillance and VIP transport operations.

The Police Service Air Wing has grown rapidly, from a low point of three grounded helicopters in 2013 to 11 helicopters and two fixed-wing aircraft today. It is in the midst of a



The Sikorsky HH-60G Pave Hawks used in the rescue are dedicated to the recovery of personnel under hostile conditions.



## HAWK HELICOPTERS PAVE THE WAY FOR TROOPS' RESCUE

Jon Lake reports on a vital helicopter mission near the Somali border with Kenya.

When terrorists from Al Shabaab attacked a force of about 800 US, Kenyan, and Somali troops near the Somali border with Kenya, US Air Force HH-60G Pave Hawk helicopters raced to the scene to evacuate the dead and wounded.

Other aircraft helped to minimise further casualties, providing on-scene intelligence, surveillance, and reconnaissance and perhaps some suppressive fire.

US personnel were assisting Somali forces and Kenyan peacekeepers, who were operating in Somalia as part of an African Union-led mission building a new forward operating base near the village of Sanguni.

They formed part of Operation Octave Shield, the US mission in Somalia. Construction of this base was part of a broader effort aimed at securing the area from Al Shabaab, an Islamist insurgent group sometimes described as Al Qaeda's franchise in Somalia.

The Al Shabaab insurgents, who attacked the outpost on June 8, were armed with mortars and heavy machine guns, and managed to wound several US personnel – the first US military casualties in Somalia since May 2017, when a US Navy SEAL died during a raid on an Al Shabaab militant compound.

The rescue in Somalia was a considerable improvement to the response in Niger in October 2017 when four US soldiers were killed during an ambush by Islamic State in the Greater Sahara insurgents. Reinforcements had been slow getting to the scene and casualty evacuation was chaotic.

Thereafter, for large, multi-day operations in Somalia, the US has ensured that rescue helicopters and armed air support aircraft are usually on standby.

The 449th Air Expeditionary Group personnel recovery task force provides personnel recovery capability for the US combined joint task force-Horn of Africa (CJTF-HOA).

It uses Sikorsky HH-60G Pave Hawks and HC-130P Combat King Hercules tankers based at Camp Lemonnier in Djibouti, which are respectively assigned to the 81st and 82nd Expeditionary Rescue Squadron (ERQS) and the 303rd ERQS.

US Africa Command (AFRICOM) has said that no helicopters are permanently forward-deployed in Somalia, but that this would not preclude short-term operational movements.

Reports suggest that the US military has regularly

deployed Pave Hawks to bases inside Somalia to support specific missions since about June 2017. Bases inside Somalia include Mogadishu, Kismayo and a Somali air base at Baledogle.

On June 8, the HH-60s were pre-positioned at a US forward operating base at Kismayo Airport. They were on scene within 20 minutes of receiving a distress call. The helicopters loaded four casualties and flew them to Kismayo.

On board the helicopters medical personnel stabilised three of the wounded, but the fourth, US Army Sergeant Alexander Conrad, a member of the 3rd Special Forces Group (Airborne), died of his injuries after the initial evacuation. He was the first American to die in combat in Africa since the Niger ambush.

□□□□□

The three wounded personnel and the sergeant's remains were then evacuated from Kismayo to Nairobi on board a C-130J Hercules from the 75th Expeditionary Airlift Squadron (also based at Camp Lemonnier). The decision to fly to Nairobi rather than Camp Lemonnier was a matter of time – the Kenyan capital lying about 400 miles west of Kismayo, while Djibouti was 800 miles north.

Medical staff from the US Embassy in Nairobi took charge of the casualties, who were temporarily transferred to a civilian hospital. On June 10 they were flown on to an undisclosed location for "additional medical evaluation" on board a US Air Force KC-135R tanker. Their destination may have been Camp Lemonnier, or perhaps the US Army Regional Medical Center at Landstuhl in Germany.

The Sikorsky HH-60G Pave Hawks used in the rescue are dedicated to the recovery of personnel under hostile conditions.

They are fitted with an automatic flight control system, a forward-looking infrared system, a colour weather radar, a retractable in-flight refuelling probe, internal auxiliary fuel tanks, and 7.62mm miniguns or .50 calibre machine guns. To improve air transportability and to allow shipboard operations, the HH-60G also has folding rotor blades.

The HH-60G is due to be replaced by the HH-60W '60 Whiskey', a combat rescue variant of the newer UH-60M.

# Kenya

major reorganisation, and is seeking to gain Kenya Civil Aviation Authority approved maintenance organisation (AMO) status in order to end its reliance on the Kenya Wildlife Service (KWS) for maintenance and servicing.

At least two of the police's older helicopters have been grounded, and the availability of the remaining AS350B3e, Bell 206L-4 and Mil Mi-17 helicopters is poor.

The new batch of AW139s could be destined for the air force. It currently operates a squadron of SA330 and Romanian-built IAR330 Pumas, and another equipped with Bell UH-1H-II Huey helicopters.

The primary operator of military rotorcraft in Kenya is the Army's 50th Air Cavalry Battalion at Moi Air Base, which operates the Hughes/MD Helicopters Model 500MD, as well as Bell AH-1F Cobras donated by Jordan, Mil Mi-171Es and Changhe Z-9Ws.

Rotich told the Kenyan Parliament's public accounts committee that the government had taken two loans to pay for the new aircraft: one for KSh20 billion (\$20 million) to pay for the C-27Js, and a second one for KSh6 billion (\$6 million) for the helicopters. The loans were advanced to the Kenyan Treasury by the Unitcredit Spa Bank – a private bank based in Milan – and will be repaid starting from June 11 2019, maturing on June 11 2029. ■

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The Kodiak's robust construction and undercarriage can handle rough dirt strips with ease.



# KODIAK'S QUEST

*An aircraft tailor-made for non-government agencies (NGOs) operating humanitarian flights into the world's most awkward and inhospitable landing strips now has an authorised dealer for southern and east Africa. Dave Calderwood reports.*

**T**he Quest Kodiak 100, a single-engine turboprop high-wing design, was launched 10 years ago.

It's as tough as old boots, cavernous with as many as 10 seats or a combination of seats and cargo space, and has ultra-safe handling for manoeuvring low and slow.

Earlier this year, US manufacturer, Quest Aircraft, launched the latest version of the Kodiak, called the Series II, which features a host of upgrades and improvements made over the years. Many are from experience in the field, and some, like the latest Garmin G1000NXi glass cockpit, are leaps forward in technology and are fully integrated into all the aircraft's systems.

To boost the Kodiak 100's sales footprint, Quest Aircraft has appointed National Airways Corporation (NAC) with a territory that includes Angola, Botswana, Burundi, Comoros, Kenya, Lesotho, Malawi, Madagascar, Mayotte, Mozambique, Namibia, Rwanda, Seychelles, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.

## Quest Kodiak 100 Series II

**Base price: \$2.15 million**  
**Engine: Pratt & Whitney PT6A-34 producing 750shp**  
**Max cruise: 174ktas**  
**Stall speed: 60kcas**  
**Max range: 1,132nm**  
**Fuel burn: 48 US gal/hr at 174ktas/12,000ft**  
**Climb rate: 1,371ft/min**  
**Take-off roll: 934ft (285 metres)**  
**Landing roll: 765ft (233 metres)**  
**Ceiling: 25,000ft**  
**Wingspan: 45ft (13.7 metres)**  
**Cabin dimensions: (LxWxH) 15ft 10in x 4ft 6in x 4ft 9in (4.83m x 1.37m x 1.45m)**  
**Cabin volume: 248cu ft (7.02cu metres)**  
**Seats: 1-10**  
**Doors: 3 (incl cargo door)**  
**Max take-off weight: 7,255 lb (3,290kg)**  
**Useful load: 3,535 lb (1,603kg)**  
**Optional cargo pod for additional convenient storage**  
**Certification: FAA Part 23, VFR/IFR, day/night, including flight into known icing conditions when equipped with optional TKS ice Protection System**

NAC is based at Lanseria International Airport in Johannesburg, South Africa, and is the largest general aviation company in Africa, offering a full range of aircraft and helicopter services. These include sales, charter, maintenance, parts, international operations, air ambulance, aircraft leasing, pilot, technical and air traffic control (ATC) training.

NAC is also the first South African aviation company to achieve ISO 9001:2015 accreditation and is a Flight Safety Foundation BARS gold standard operator. In short, it has not only earned a reputation for excellence but, by working closely with operators, has its finger on the pulse of the region and its needs.

Paul Branham, vice-president of sales for Europe, Middle East and Africa at Quest Aircraft, said: "We're pleased to announce our partnership with NAC and have complete confidence in their ability to represent and support the Kodiak in southern and east Africa.

"We believe there is fantastic

Continued  
on Page 58

Up to ten passengers can fly in the Quest Kodiak, or the cabin can easily be reconfigured for all or part cargo.



CONTINUED FROM PAGE 57

potential for the Kodiak throughout the region. It's a highly rugged aircraft, reliable, simple to maintain and boasts low operating economics."

He's not kidding. The Kodiak was originally designed to address the need for a sturdy and powerful short-take-off and landing (STOL) aircraft that could perform easily in the most remote places on the planet.

One of its secrets is the wing. It looks like a normal one-piece wing at first but, look closer, and you'll see it's actually two wings – an inboard one and an outer wing.

There are also various aerodynamic devices such as fences – short vertical strips at right angles to the wing surface – and vortex generators. It's this carefully designed wing that gives the Kodiak its extraordinary flying performance.



Agencies such as the Mission Aviation Fellowship (MAF) are extensively operating the Kodiak into hidden jungle airstrips that would be impossible to land at, or take off from, in almost any other aircraft.

The Kodiak was also purpose-built for ease of maintenance, given that remote operations would likely require remote service by pilot-mechanics. It's powered by the robust, powerful and ubiquitous Pratt & Whitney PT6A turboprop engine, which is renowned for its reliability. It's also well-known to maintenance companies and technicians, so servicing is straightforward.

The combination of robust construction and

**African operators with large payloads utilising the Kodiak will be able to access many more airstrips and locations that previously would have proven difficult.**

healthy payload makes the Kodiak ideal for passenger and cargo transport, special missions, medevac, skydive, humanitarian aid and more. The Kodiak can also be fitted with floats for water ops without the need for additional fuselage strengthening.

African operators with large payloads utilising the Kodiak will be able to access many more airstrips and locations that previously would have proven difficult.

Botswana's Ministry of Environment, Wildlife and Tourism has already recognised the usefulness of the Kodiak, operating one since 2016 to monitor wildlife, conduct search and rescue, deliver equipment and, most importantly, deter poaching.

Mackair, of Maun, Botswana, also operates a Kodiak on the rougher bush strips found in the Okevango Delta.

Good though the original Kodiak 100 is, the Series II is a block-change update to the Kodiak

platform, according to Quest Aircraft. All new aircraft coming out of the Quest factory will be the new Kodiak 100 Series II.

The standard-equipped Series II is generous in its equipment, but should operators or customers choose, various options are available, including a cargo pod, floats, upgraded bush tyres, as well as avionics upgrades. There's also a luxurious leather cabin interior, which Quest calls Summit, with club seating and fold-out tables.



"The overwhelming response to the Series II debut has been very positive," says Quest. "The increased speed and options on the [Garmin] G1000NXi [glass cockpit], coupled with numerous cockpit and interior upgrades make the Kodiak Series II feel like a brand new aircraft.

"One of the most appreciated features is the new availability of a single-point refuelling port that allows operators to refuel their aircraft from a single location. This feature is retrogradable to the existing fleet as well."

The final word goes to the man who will be selling and looking after NAC's Quest Kodiak presence.

Martin Banner, CEO, said: "We are convinced of Kodiak's superior qualities and we look forward to establishing its rightful place in the market. With the launch of the new Series II aircraft, the timing of this announcement could not have been better and we look forward to working closely with Quest to achieve their success in our region."



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A Cessna 208 Caravan similar to this UK-registered example is scheduled to be the first aircraft to be operated under the new Bristow contract with Bayelsa State in Nigeria.



## Bristow floats fixed-wing passenger service in Nigeria

*One of the world's major helicopter operators is planning a fixed-wing service in Nigeria.*

**Alan Dron finds out more.**

**B**ristow is a name more normally associated with helicopter transport to offshore rigs, but the Houston-based company is embarking on a new project in southern Nigeria.

The company has signed a memorandum of understanding (MoU) with the government of Bayelsa state to provide a start-up fixed-wing passenger service for the region.

Under the MoU, Bristow will provide dedicated charter services for private passenger flights between the Bayelsa state capital Yenagoa and locations throughout the rest of the country. Initial destinations will include Lagos and Port Harcourt, with more to be added if sufficient demand emerges.

The MoU was signed in late February at Yenagoa Ox-Bow Lake, which will be the base for the new operation.

Services using a Cessna 208 floatplane are scheduled to start in early 2019 after safety risk assessments and other administrative details are agreed with the country's regulatory authorities.

The services will be the first of their kind with any government agency in Nigeria, says the company.

The signing ceremony was marked by Bayelsa government representatives taking a flight in the aircraft. "Today's flights are the foundation for connecting Bayelsa to other parts of Nigeria by air," said Bristow's area manager for Africa, Dapo Oyeleke. "There is a great deal of interest in this service and this agreement gives us an advantage in the market. We look forward to serving the state of Bayelsa and the country of Nigeria with these flights."

The new company, to be called Bayelsa Airlines according to a release by the state's government, will have the task of easing transportation for commuters, both within and beyond the state. The state lies in the Niger Delta, making a floatplane particularly suitable.

Bayelsa governor, Seriake Dickson, said the partnership with Bristow was intended to improve communication

links with the outside world and bring more business and tourists to the southern state. The region has Nigeria's largest oil and gas deposits and a major petroleum sector.

"Today, we are here to witness a seaplane land in Yenagoa in furtherance of our objective of taking Bayelsa to the world and bringing the world to Bayelsa," said Dickson.

The state, he added, was a well-kept secret, which meant it was important for the state government to create a conducive atmosphere for private sector companies such as Bristow to tap the potential that it offered.

He urged local residents to make use of the new Bristow-organised service, which will be able to operate from either water or conventional runways, rather than first travelling out of the state to begin their air journeys.



The start of the Bristow service is the latest in a series of measures being taken by the Bayelsa government to improve transport links to and from the region. Bayelsa Cargo International Airport is due to come into service around the time this issue of *African Aerospace* is published.

Work has been under way on the airport for several years; the state government has said that the slow pace of work is a result of a sharp drop in funding allocations to the state from the federal government.

Speaking on local television last year, the managing director of Bayelsa Airlines, Okobaundu Ungbuku, said that the federal government had been due to fund the terminal building and the air traffic control tower, but up until then, the money had not appeared and that the Bayelsa state government had had to fund the project itself.

Several planned completion dates for the airport have passed. But, in March this year, governor Dickson said that the first aircraft to land at the international airport was expected in June. He said that funds had been set aside for the completion of the airport, which will have a 3.5km-long runway. ■

*With a clientele boasting famous Hollywood actors to UN diplomats and major corporations, Abyssinian Flight Services (AFS) has been putting charter operations on the map in Ethiopia since 1999. Kaleyesus Bekele talked to the company's top men.*

## Wisdom of Solomon maps out Abyssinian's rising star

**C**aptain Solomon Gizaw returned to his Ethiopian homeland in 1998 after living in the US for many years, where he'd studied aircraft maintenance and qualified as a pilot. He immediately spotted a gap in the market.

Though Ethiopia has a successful national airline, general aviation was in its infancy. Thus, in 1999, with a single Cessna aircraft, Gizaw established AFS.

"Addis Ababa is the seat of the United Nations Economic Commission for Africa (UNECA) and other major international organisations. Back then, there was only one or two companies that provided charter flight services. Flying is my passion. That's why I decided to venture into charter flight services," he explained.



Business boomed and AFS thrived over the years. It acquired more Cessna aircraft and provided VIP charter flight services.

It also conducts medical evacuation operations and transports tourists to various places around the country.

UN agencies are AFS' number one customers. However, it also serves oil and mining companies engaged in exploration projects in Ethiopia as well as construction firms engaged in mega projects in remote parts of the country.

Famous Hollywood actors, including Brad Pitt and Morgan Freeman, have also flown with AFS. "Ethiopia has an enormous tourism potential. AFS is contributing its share to the development of tourism in the country," Gizaw said.

Today, AFS has six Cessna Caravan aircraft and one helicopter.



The company provides charter flight services throughout Ethiopia and also operates to neighboring South Sudan, Kenya, Somaliland and Somalia.

The company recently acquired a Bell 407 helicopter. "With the fast economic growth, the country is registering there is an enormous demand for charter helicopter flight services," Gizaw added.

The Bell 407 is a single-engine turbine, four-bladed, seven-seat light utility helicopter manufactured in the US by Textron Aviation. Its powerful Rolls-Royce/Allison 250-C47 turboshaft engine allows excellent

take-off weight and improved hot and high performance.

The helicopter has standard seating for one crew and six passengers in a comfortable wide cabin. It can cruise at 140 knots and has a range of 550km.

Gizaw said the helicopter would serve oil and gas companies, aid organisations and high-profile tourists. It could also be used for survey work, aerial photography and medical evacuation. According to Gizaw, the Ethiopian Government is undertaking mega construction projects in remote areas where there is no airport infrastructure. "Our



**Left, Captain Solomon Gizaw: "Ethiopia has an enormous tourism potential. AFS is contributing its share to the development of tourism in the country."**

**Above, Captain Amare Gebrehana: "We get little recognition and support from the Government."**

**Top right: Hollywood star Brad Pitt flew with AFS.**

new helicopter can land anywhere. It can be used to supervise railway, dam or other major construction projects. Mining companies can use it to monitor exploration work," he said.

According to Gizaw, AFS is already negotiating to buy two more helicopters.

In 2007, ASF established the first private pilot training school in Ethiopia. Currently, it has 10 trainer aircraft – six Cessna 172s, two Diamond DA40s and two Diamond 42s. The flight school also has a flight simulation trainer.

It trains cadets from Ethiopia and other African countries and grants both private and commercial pilot licences (PPL and CPL). Since its inception in 2007, more than 200





pilots from 13 countries have graduated.

Gizaw said that a shortage of pilots has reached a critical stage globally. According to Boeing's recent forecast, the world needs 637,000 new pilots in the next 20 years. "If we, as a nation, could train only 3% of these pilots, we can generate \$1.4 billion," he revealed.

Gizaw said pilot training has an immense business opportunity that Ethiopia should explore. "With ardent support from the Government, the pilot training schools in Ethiopia could generate a significant amount of foreign currency for the country."



Currently, Abyssinian Flight Services and Aviation Academy operates a total of 16 aircraft and one helicopter. According to Captain Amare Gebrehana, AFS deputy managing director, general aviation in Ethiopia could contribute a lot to the economic development of the country.

"We provide charter flight services for UN agencies, tourists, corporate CEOs, oil and gas companies, and surveyors. But we get little recognition and support from the Government," Gebrehana said.

General aviation in Ethiopia is facing several challenges. "Number one, we do not have a dedicated airport for general aviation. All the big commercial jets and light aircraft use the same airport – Addis Ababa Bole International – which is now congested. Ethiopian Airports tells us to go to the regional airports but our business is here in Addis Ababa," Gebrehana lamented.

Abyssinian Aviation Academy was

forced to move its flight training out of Addis Ababa to Jimma Airport due to the congestion at Addis Ababa. "Secondly, we are not allowed to build our own maintenance hangar at the Addis Ababa Airport, so every year we send our fleet to Nairobi for periodic maintenance and spend a huge sum of money in foreign currency. We could have saved this hard cash, which the country needs badly, if we had a maintenance hangar at Addis Ababa."



According to Gebrehana, the other major challenge faced by charter flight operators is securing flight permits from the ministry of defence. "We have to notify the ministry of every charter flight 24 hours prior to departure and secure a flight permit. Our customers need charter flights because they are in a hurry. They call you in the morning to book a charter flight in the afternoon. But we need 24 hours to process our permit at the ministry. We understand that we have to get security clearance to fly to some areas but why do we have to get a permit to fly to everywhere? This is affecting our charter flight operations," he said.

For Gizaw, the problem emanates from lack of knowledge about aviation. "For me, the challenge is not about runways and terminals, it is people's minds that we need to work on. There is no understanding of general and business aviation in Ethiopia. Our Government officials do not know the benefits of general aviation. We have to educate our Government officials," he concluded. ■



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Ethiopian Airports is expanding the Addis Ababa Bole International Airport passenger terminal at a cost of \$363 million.



**Kaleyesus Bekele** reports from the sixth Africa Airport Expansion Summit held in Addis Ababa.

# AFRICA'S GROWING PLACES

«Les projets d'infrastructures  
aéroportuaires foisonnent » – Page 66

**E**xperts predict that eight of the ten fastest-growing aviation markets will be in Africa by 2034. The International Air Transport Association (IATA) projects a 5.1% growth in passenger numbers across the region by 2035.

Nearly 300 million passengers will travel to and from African destinations and, as a result, airport development projects today are mushrooming across the continent.

The majority of airports in Africa are undergoing expansion in a bid to cater for rapidly growing passenger and cargo traffic volumes.

Such was the backdrop for the sixth Africa Airport Expansion Summit held on February 21, in Addis Ababa, Ethiopia, where government officials, investors, civil aviation authorities, airport management groups and airport equipment manufacturers deliberated on airport development projects.

Tanzania is one of the countries that is undertaking a number of airport expansions. The country has three international airports – Julius Nyerere International Airport (JNIA), Zanzibar International Airport (ZIA) and Kilimanjaro International Airport (KIA) – plus 11 domestic airports and more than 40 airstrips.

Tanzanian Civil Aviation Authority director general, Hamza Saidi Johari, said the demand for air travel in the country has been growing and the Government had placed airport development at the forefront of the development agenda.

Continued  
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CONTINUED FROM PAGE 65

“The Government is continuously investing in airport development and expansion and to strengthen the national carrier for the purpose of improving the quality of air transport and turning JNIA into a hub,” Johari said.

The €254.8 million (\$297.2 million) construction of a new terminal building (Terminal III) and associated infrastructure at JNIA is under way.

The 60,000sqm facility, which will have the capacity to handle six million passengers per annum, is 70% complete and is scheduled to be finished later this year.

The Tanzanian Civil Aviation Authority has embarked on a second terminal building upgrade project. According to Johari, a feasibility study and preliminary engineering design for the rehabilitation and extension of passenger terminal building II and its associated facilities at JNIA has been completed. “The government is negotiating a loan with development partners and financial institutions,” he reported.

A major airport upgrade project is also nearing completion at KIA. It includes the rehabilitation of existing taxiways and apron, extension of the apron, construction of a new taxiway, and the refurbishment of the terminal building.

In Zanzibar, rehabilitation of the current terminal building and construction of new terminal II building is taking place.

Johari also disclosed that there are a number of

on-going and planned upgrade projects at the domestic airports.

Kenya is also undertaking major airport expansion projects to meet the growing demand for air travel.

The Kenyan Airports Authority (KAA) manages four international airports – Nairobi (JKIA), Moi in Mombasa (MBA), Eldoret (EIA) and Kisumu (KIS) – plus five domestic airports and seven airstrips.

The flagship airport, JKIA, has 40 shuttle airline operators and is the home base of the national flag-carrier Kenya Airways. It has a capacity of 7.5 million passengers per annum, plus a million tons for cargo and 120,000 aircraft movements.



The airport is currently handling 6.5 million passengers, 0.5 million tons of cargo and 100,000 aircraft movements respectively per year.

Joseph Okumu, airport manager, Kisumu International Airport, speaking on behalf of the KAA, said several expansion projects were being undertaken with the view to positioning JKIA as a hub airport.

To cater for the steady growth of air traffic at JKIA, the authority is building a second \$160 million runway, which will be 4.8km long, and 60 metres wide to accommodate giant jetliners, including the Airbus A380.

Ancillary infrastructure includes taxiways, fire-fighting facilities, weather equipment and emergency access roads. “We have congestion on a single runway and this is really a key project,” Okumu said.

Remodelling of terminals 1B, C, & D from the original terminal building at JKIA is also taking place. The project aims to install a new passenger processor (departures and arrivals), passport control, lounges, retail facilities and support infrastructure, for a green terminal building.

The capacity of Terminal 1 is expected to increase to 10.3 million from 7.5 million passengers per year once complete.

The detailed design was being completed as *African Aerospace* went to press and the contract was scheduled to be tendered out in 2019.

Okumu believes that the projects will boost tourism and business travel. “It will be useful for the new direct flight that Kenya Airways is planning to the US,” he said.

The Moi airport runway is being repaired at a cost of \$66 million. Other major expansion projects are being carried out in Kisumu, Malindi and Eldoret airports.

Burundi, is also undertaking expansion work at Bujumbura International Airport, the country’s only entry and exit point for all international flights.

According to Pacifique Musongera, director airports and air navigation services, Burundi Civil Aviation Authority, the expansion and modernisation project has three main parts – the

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LES PROJETS D’INFRASTRUCTURES AÉROPORTUAIRES FOISONNENT

Kaleyesus Bekele nous dresse un bilan du sixième sommet « Africa Airport Extension » à Addis Abeba.

Selon les analystes, huit des dix marchés de l’aviation qui connaîtront la croissance la plus rapide d’ici 2034 seront en Afrique. L’IATA prévoit une croissance de 5,1% en nombre de passagers sur le continent d’ici 2035. Environ 300 millions de passagers voyageront vers et de l’Afrique. Par conséquent, les projets de développement des infrastructures aéroportuaires se multiplient afin de répondre à la croissance rapide du trafic. Telle était la toile de fond de ce sommet réunissant les principaux acteurs du secteur.

La Tanzanie est l’un des pays qui compte le plus de projets. Le pays dispose de trois aéroports internationaux (JNIA, ZIA, KIA) et de plus de 11 aéroports nationaux.



Selon le DG de l’aviation civile tanzanienne, Hamza Saidi Johari, le gouvernement investit continuellement dans le développement et l’expansion des aéroports ». La construction d’une nouvelle aérogare à JNIA est en cours pour en faire un hub. Les travaux seront terminés d’ici fin 2018. Un second projet a été lancé. Un important projet de modernisation est également en cours

d’achèvement à KIA. À Zanzibar, la réhabilitation de l’actuelle aérogare et la construction du nouveau bâtiment du terminal II sont en cours.

Le Kenya entreprend également d’importants projets d’extension de ses aéroports. La Kenya Airports Authority (KAA) gère quatre aéroports internationaux et cinq aéroports nationaux.

Selon Joseph Okumu, ces projets visent à positionner l’aéroport JKIA comme un grand hub. Citons la construction d’une deuxième piste et d’un nouveau centre de traitement des passagers. D’autres grands projets d’agrandissement sont en cours dans les aéroports de Kisumu, Malindi et Eldoret.

Le Burundi entreprend également des travaux d’expansion et de modernisation de son aéroport international de Bujumbura. Selon son directeur, Pacifique Musongera, ce projet comprend la réhabilitation de la piste et la construction d’un nouveau terminal. Le trafic de passagers à Bujumbura devrait atteindre un million de passagers d’ici 2025.

L’Ethiopie a également dévoilé ses projets de développement aéroportuaire durant ce sommet. Pour Endris Argaw, directeur commercial et du marketing, la construction de sept aéroports

régionaux est en cours. L’aéroport international d’Addis Abeba Bole est congestionné et cela engendre de nombreux désagréments : terminal surpeuplé et transfert de passagers insatisfaisant. Ethiopian Airports devrait agrandir le terminal de passagers.

Le coût du projet est estimé à 363 millions de dollars. Il comprend l’agrandissement des aérogares existantes et la construction d’un nouveau pavillon VIP. Il devrait être achevé en 2019.



Une mesure audacieuse a été prise pour développer un nouvel aéroport à proximité d’Addis-Abeba, ce qui devrait permettre au transport aérien de l’Ethiopie de franchir une nouvelle étape. Ce hub aura la capacité d’accueillir plus de 80 millions de passagers par an.

Les aéroports africains doivent également s’adapter au développement technologique. Selon Alexander Herring, directeur Afrique, ADB Safegate, les aéroports africains doivent adopter de nouvelles technologies aéroportuaires et de navigation aérienne pour assurer des services aéroportuaires efficaces et sûrs.





Nairobi is Kenya's flagship airport. Several expansion projects are being undertaken with the view to positioning JKIA as a hub airport.

rehabilitation of the movement area that is the runway, taxiway and the apron, the building of new control tower facilities and equipment, and the building of a new passenger terminal plus related facilities.

The Burundi Civil Aviation Authority forecasts that passenger traffic at Bujumbura will surge to one million by 2025. "This will require a bigger terminal. It is not only a matter of building a house but we will buy and install all the security and facilitation equipment," Musongera said.

According to him, the project will be funded by the EXIM Bank of China.

"It will take three years of detailed technical studies that will start at the end of this year. We cannot determine the project cost before the technical and detailed studies have been conducted."

At the end of the project, Musongera hopes to see a modern airport that provides reliable, safe and secured services.

Ethiopian Airports has also unveiled its development projects.

Endris Argaw, marketing and business development manager, said his company was undertaking the construction of seven regional airports.

In addition to the regional facilities, Ethiopian Airports has started the construction of airfields for seven new additional airports. "The Ethiopian Government is committed to develop air transport services in the country. As a result, 10 regional airports have been built in the past 10 years," Argaw said.

With the fast growth of air transport in Ethiopia, Addis Ababa Bole International Airport is congested. Tekle G Yohannes, managing director

Ethiopian Airlines ground services, said the existing passenger terminal, which was meant to handle six million passengers per year, is currently accommodating close to ten million.

"Very poor airport infrastructure, inadequate airport facilities, an overcrowded terminal and unsatisfactory passenger transfer experiences are the major competitive disadvantages as compared to hubs in Dubai, Abu Dhabi, Doha and Istanbul," Yohannes said.

To curb the problem, Ethiopian Airports is expanding the Addis Ababa Bole International Airport passenger terminal at a cost of \$363 million.



Argaw said the project includes the expansion of the existing passenger terminal buildings, terminals one and two, and the construction of new VIP pavilion with associated equipment systems, to handle about 22 million passengers annually. The project will see the existing terminal floor area increase from 48,446sqm to 122,721sqm. It is expected to be completed in 2019.

Argaw said the project is 55% complete and he expected the new terminal building to be partially open for service as *African Aerospace* was going to press. He believes that the project will mitigate the terminal congestion and transform the airport infrastructure and various services provided at the airport.

"The project is in full swing," Yohannes added. "When completed, we will potentially own one of the best airport hubs in Africa and improve our customer satisfaction."

Ethiopian Airports currently administers 23

airports – four of them international and 19 handling scheduled flights.

The company has taken a bold step to develop a new hub airport at the vicinity of Addis Ababa, which is expected to move the country's aviation to a higher level.

According to Argaw, site selection, a feasibility study and masterplan preparation for the construction of the major mega-hub airport is in progress. The planned hub will have the capacity to accommodate more than 80 million passengers per year.

Flora Kumama Wakolo, chief air traffic control officer, Kenya Civil Aviation Authority, highlighted the need for regional cooperation in airport development and operation. "Countries must work together to provide safe and reliable air navigation services," she said.

Experts urged African airports to embrace modern technology. Alexander Herring, general manager Africa, ADB Safegate, which has years of experience in Africa, said that he was witnessing a rapid growth in the African aviation industry. "African airports have to adopt new airport and air navigation technologies to ensure efficient and safe airport services," he said.

However, most airports in Africa have limited financial resources to embrace modern technologies. Herring noted that countries needed to complete a detailed feasibility study to solicit funds from international financial institutions.

"To prepare a sound business plan and present it to the financing institutions is one option. The second option is to establish a public private partnership in airport development projects. The involvement of the private sector is important. That is the model for the future," he concluded. ■



# 2<sup>ND</sup> HAND GSE

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**BEFORE**



**AFTER**





*L'OACA a enregistré une forte croissance de son trafic passager et prépare la construction d'un nouvel aéroport. Un reportage de **Vincent Chappard**.*

## LES AÉROPORTS TUNISIENS DANS UNE BONNE DYNAMIQUE

**L**e trafic des passagers reprend des couleurs en Tunisie. L'OACA, organisme public en charge de la gestion, du développement et de l'exploitation des sept aéroports internationaux tunisiens (Tunis-Carthage, Djerba-Zarzis, Sfax-Thyna, Tozeur-Nefta, Tabarka-Ain Draham, Gafsa-Ksar et Gabès Matmata) a enregistré une hausse de 13% du trafic passager (de janvier à mai).

L'aéroport de Djerba-Zarzis a enregistré la plus forte hausse alors que celui de Sfax a stagné. L'aéroport international de Tunis-Carthage capte 80% du trafic national. Selon les prévisions, celui-ci devrait accueillir environ 6,5 millions de passagers cette année en raison de la forte reprise des flux touristiques européens vers la Tunisie.

« Nous enregistrons une belle dynamique sur la plupart des aéroports tunisiens et sommes confiants de l'évolution du transport aérien », souligne Mohamed Walid Ben Ghachem, directeur de la communication et des relations publiques de l'OACA. « Ces résultats sont enregistrés hors saison touristique. Cela montre que la reprise concerne l'ensemble des activités en Tunisie. »

Cependant, l'aéroport de Tunis Carthage fonctionne en surcapacité depuis plusieurs années. Reste un défi majeur : celui de répondre aux besoins économiques grandissants de la capitale tunisienne. L'accueil des avions long-courrier comme l'A380 est également une problématique. L'OACA a annoncé à African Aerospace le démarrage des travaux de



**Mohamed Walid Ben Ghachem : « Nous enregistrons une belle dynamique sur la plupart des aéroports tunisiens et sommes confiants de l'évolution du transport aérien »**

modernisation dans les prochains mois. « Les études techniques sont en cours de finalisation pour l'extension du terminal avec un agrandissement des zones d'enregistrement et un nouvel espace pour le tri des bagages. Ces travaux permettront à l'aéroport d'accueillir 7,5 millions de passagers à l'horizon 2020/2021 et de fluidifier le flux des passagers ».

Conformément à la politique de soutien de la croissance du trafic aérien dans le pays, l'ensemble des aéroports gérés par l'OACA bénéficie d'un programme d'investissement ambitieux de modernisation tout en assurant une rentabilité respectable et évolutive.



### SUMMARY

#### TUNISIAN AIRPORTS TUNE IN TO GROWTH

Tunisia's civil aviation and airports authority – OACA – has reported strong passenger traffic growth and is preparing to build a new airport for the country's capital city, Tunis.

OACA is responsible for the management, development and operation of Tunisia's seven international airports – Tunis-Carthage, Djerba-Zarzis, Sfax-Thyna, Tozeur-Nefta, Tabarka-Ain Draham, Gafsa-Ksar and Gabès Matmata. From January to May this year, they recorded a 13% increase in passenger traffic.

Tunis-Carthage International Airport captures 80% of the country's traffic and forecasts show that, this year, it will receive around 6.5million passengers.

Tunisian Transport Minister, Radhouane Ayara, has also announced the construction of a new international airport for the Tunisian capital. With an estimated investment of €690

million (\$802m), it could accommodate 10 million passengers in 2030.

"We are enjoying great momentum at most Tunisian airports and are confident of the overall growth of air transport," said Mohamed Walid Ben Ghachem, OACA director of communication and public relations. "These results were recorded outside the main tourist season, showing that the recovery covers all areas of air transportation."

Tunis-Carthage airport has been operating at over-capacity for several years. Coping with ultra-large aircraft such as the Airbus A380 is also problematic and modernisation work will begin soon to finalise plans for extending the terminal, enlarging check-in and baggage sorting areas. This work will enable the airport to accommodate 7.5 million passengers by 2020/2021.

Le ministre tunisien des Transports, Radhouane Ayara, a annoncé la construction d'un nouvel aéroport international pour la capitale tunisienne. Avec un investissement estimé à 690 millions d'euros, celui-ci pourra accueillir 10 millions de passagers en 2030. Cette nouvelle infrastructure aura pour but de désengorger le trafic aérien de la capitale.

L'appel d'offres pour l'étude du projet sera prochainement lancé. Il y a également le financement du projet à boucler auprès des bailleurs de fonds. L'OACA va engager un bureau spécialisé en vue de mener une étude multicritères approfondie pour déterminer le meilleur emplacement.

Par ailleurs, l'OACA mise sur le savoir-faire de son personnel et engage un programme annuel de formation pour acquérir une expertise internationale. La Tunisie aspire à devenir un pôle de formation.

L'Afrique demeure un marché potentiel pour la Tunisie qui se penche aussi sur le développement du fret aérien. ■

*Le groupe SUMMA va moderniser et gérer l'aéroport international Diiori Hamani du Niger. Le directeur exécutif, Envar Sayan, a abordé les investissements et les projets du groupe turc en Afrique avec Vincent Chappard.*



# Course contre la montre pour moderniser l'aéroport du Niger

**C'**est une véritable course contre la montre qui s'engage pour le groupe d'investissement SUMMA et les autorités nigériennes. Niamey va en effet accueillir au mois de juillet 2019, le sommet de l'Union africaine et sera la capitale de l'Afrique durant cet événement majeur.

Les autorités du Niger ont ainsi décidé de moderniser l'aéroport international Diiori Hamani situé à proximité de Niamey. Le président Issoufou Mahamadou a officiellement posé la première pierre des travaux de cette infrastructure aéroportuaire en juillet dernier.

Les travaux seront conçus, réalisés et financés par SUMMA dans le cadre d'un partenariat public-privé signé en mars 2018. Le montant est estimé à 154 millions d'euros. SUMMA assurera pendant une durée de 30 ans l'exploitation et la maintenance de cette infrastructure aéroportuaire.

« Nous sommes entrés sur ce marché avec les travaux réalisés à l'aéroport international Blaise Diagne (AIBD) du Sénégal », déclare Envar Sayan, directeur exécutif de SUMMA. « Nous investissons aujourd'hui dans l'infrastructure aéroportuaire de Niamey et nous comptons développer nos activités dans ce secteur sur le continent. »

SUMMA est un groupe d'investissement international basé en Turquie. Il est présent dans 12 pays africains et



**Envar Sayan: « Nous comptons développer nos activités dans ce secteur sur le continent. »**

opère dans des secteurs variés comme la construction, l'immobilier, la santé, l'extraction de l'or et l'énergie.

Dans le domaine aéronautique, SUMMA est venu à la rescousse pour finaliser la construction de l'aéroport AIBD en 2016. Celle-ci a eu un coup d'arrêt suite à un litige financier qui a opposé l'état sénégalais au groupe Saudi Bin Laden, maître d'œuvre des travaux à l'époque. Une solution fut trouvée avec la nomination d'un consortium turc composé de SUMMA et de Limak, chargé de boucler les travaux et de gérer la concession.

L'aéroport international de Niamey entame donc un projet majeur de modernisation. Il n'avait pas bénéficié des travaux d'une telle ampleur depuis sa mise en opération en 1972.



Envar Sayan explique que les principaux travaux comprennent la rénovation de l'ancien terminal, l'extension des parkings avions et des voies de circulation et le prolongement de la piste pour permettre l'utilisation de gros avions cargo. Sont également prévues La construction d'une nouvelle aérogare pour passagers et la réhabilitation de l'aérogare dédiée au fret.

SUMMA compte se développer et saisir les opportunités existant sur le continent. Il a d'ailleurs signé un partenariat avec l'aéroport de Khartoum au Soudan. Le groupe turc élargit également ses activités d'extraction d'or ailleurs qu'au Niger.

La modernisation de l'aéroport international Diiori Hamani sera complétée par la construction d'une « voie express » reliant l'aéroport au centre-ville de Niamey. SUMMA est également impliqué dans la construction d'un hôtel présidentiel cinq étoiles au centre-ville de la capitale, non loin du fleuve Niger.

Rendez-vous est donc pris en juillet 2019, lors du sommet de l'Union africaine pour découvrir cette nouvelle infrastructure aéroportuaire, la nouvelle porte d'entrée du Niger.

## SUMMARY

### RACE AGAINST TIME TO MODERNISE NIGER AIRPORT

Turkey's SUMMA Group is to modernise and manage the Diiori Hamani International Airport in Niger, according to group executive director, Envar Sayan.

It's a real race against the clock for both the investment group and the Niger authorities as the country's capital, Niamey, will host the African Union summit in July 2019.

The works will be designed, built and financed by SUMMA as part of a public-private

partnership signed in March 2018. The cost is estimated at €154 million (\$179m) and SUMMA will run and maintain all airport infrastructure for the next 30 years.

Major works include the renovation of the old terminal, the expansion of aircraft parking and taxiways, and the extension of the runway to allow the use of wide-body aircraft. A new passenger terminal is also planned, along with the rebuilding of cargo facilities.





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*L'aéroport international Blaise Diagne de Diass (AIBD) qui a officiellement ouvert ses portes le 7 décembre 2017, apparaît aujourd'hui comme un outil économique multidimensionnel. Le point avec Romuald Ngueyap.*

# LE SÉNÉGAL ATTEINT DE NOUVEAUX SOMMETS

**C**onsidéré comme l'un des projets les plus ambitieux de ces cinquante dernières au Sénégal, c'est l'infrastructure aéroportuaire la plus moderne de la région Afrique de l'Ouest et centrale. Après sept mois d'exploitation, Xavier Mary, le CEO de LAS (Limak-Aibd-Summa) dresse un premier bilan et dévoile les ambitions de l'AIBD.

« Nous exprimons une satisfaction générale pour ce qui s'est passé depuis l'ouverture de l'aéroport. Après la phase de décollage, nous sommes dans la phase d'ascension. Nous atteindrons bientôt notre phase de croisière » affirme Xavier Mary.

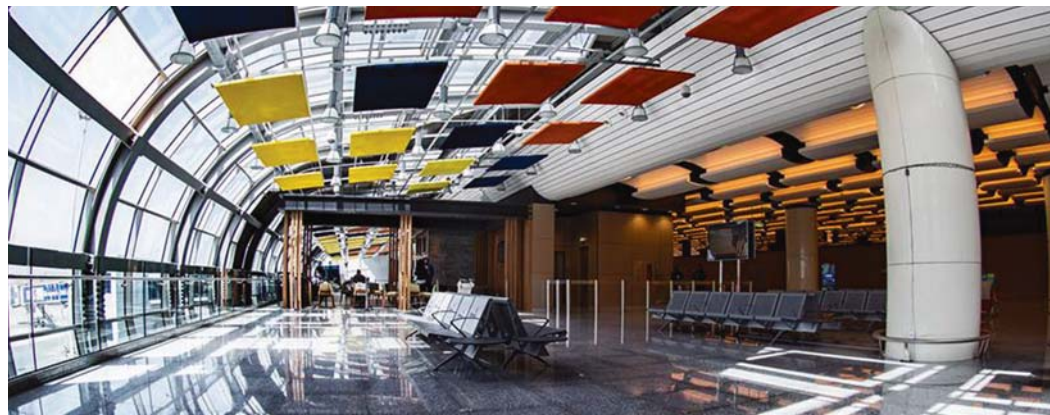
Depuis son ouverture, AIBD a enregistré des performances opérationnelles encourageantes. « Au premier trimestre comparativement à l'an dernier, nous avons réalisé une hausse de 8,8% du trafic passagers. L'aéroport a accueilli quatre nouvelles compagnies à savoir Rwandair, Camair-Co, Air Peace et Air Sénégal SA. »



Il accueille aujourd'hui 31 compagnies aériennes et dessert l'Afrique, l'Amérique du Nord, l'Amérique du Sud, l'Europe et le Moyen Orient. « Pour répondre à la demande de président Macky Sall, nous travaillons à doter le Sénégal d'un outil économique lui permettant de se développer dans le domaine des affaires ainsi que touristique, et donner ainsi une excellence image du pays. »

Xavier Mary estime que le projet a été très bien pensé pour les années à venir. « AIBD s'est mis dans une posture d'aéroport du futur. Il s'étend sur 2500 hectares et dispose de 2000 hectares de réserve foncière. C'est un aéroport qui dispose des mêmes facilités que l'on retrouve dans les aéroports régionaux européens. »

L'aéroport est doté d'une piste d'atterrissage de 3500 mètres dimensionnée pour accueillir l'Airbus A380. Il dispose d'une tour de contrôle de 50 mètres de haut, de 6 passerelles télescopiques, de 7 voies de circulation, de 50 postes de stationnements, d'un terminal pèlerin de 2270m<sup>2</sup>, et d'un terminal cargo d'une capacité de 50 000 tonnes par an.



**Le hall d'accueil de l'aéroport international AIBD.**

« Aujourd'hui, AIBD a une capacité de trois millions de passagers avec un standard qualité IATA niveau B ; il est extensible à 10 millions de passagers. Compte tenu de la réserve foncière et de l'espace que nous avons, nous pourrions facilement répondre à la demande. A long terme, on pourra faire une seconde piste symétrique par rapport à la tour de contrôle », souligne-t-il.

AIBD est situé à Diass, à 47 KM au sud-est de Dakar. Il sera bientôt connecté par un Train express régional. C'est l'entreprise française Engie INEO, en collaboration avec Thales et la Compagnie sahélienne d'entreprise (CSE), qui est chargée de piloter la conception et la réalisation des systèmes ferroviaires du Train Express Régional (TER) devant relier Dakar-Diamniadio-AIBD. « D'ici deux ans, le TER sera la future colonne vertébrale du réseau de transport et permettra une desserte aéroportuaire efficace. »

« Le passager est au centre de notre préoccupation et nous mettons l'accent sur la qualité du service. C'est là qu'intervient le gestionnaire », explique Xavier Mary. « Tous nos partenaires doivent aussi s'inscrire dans cette lignée. »

La conformité aux règles internationales est un facteur essentiel. « Nous avons eu la certification TSA (Transport Security Agency). Cette administration nous a audité à l'ouverture de l'aéroport de AIBD et elle est revenue par la suite faire une visite de contrôle. »

Aujourd'hui, Delta Airlines et South African Airways assurent les liaisons entre les États-Unis et AIBD trois fois par semaine.

L'aéroport a pratiquement bouclé les procédures pour l'obtention de la certification OACI. Xavier Mary se dit confiant pour décrocher cette certification ainsi que d'autres à venir.



AIBD veut également s'accommoder aux nouveaux concepts d'aéroports écologiques. Les efforts pour réduire les émissions de CO<sub>2</sub> s'inscrivent parmi priorités de la stratégie environnementale de LAS. « AIBD de par la nature des infrastructures est innovant et s'inscrit dans la démarche Airport Carbon Accreditation. »

Par ailleurs, AIBD va lancer une académie de formation aux métiers aéroportuaire l'année prochaine.

« Nous sommes dans notre phase d'ascension. Progressivement nous allons mettre en place des services innovants pour le Sénégal et pour l'Afrique », souligne Xavier Mary. LAS réfléchit ainsi sur les mécanismes visant à améliorer les recettes extra aéronautiques de l'aéroport.

LAS compte également mener un projet au niveau du fret pour promouvoir les produits locaux et valoriser le « Made in Sénégal ». ■



## SUMMARY

## AIRPORT ENJOYING A BLAISE OF GLORY

Widely considered to be one of Senegal's most ambitious infrastructure projects of the past half-century, Blaise Diagne International Airport in Diass (AIBD) opened in December 2017. It was soon recognised as one of the most modern airports in the region.

Airport CEO, Xavier Mary, said: "We are generally satisfied with our first half-year and now, after the take-off phase, we are climbing under full power before reaching cruising altitude."

Since opening, AIBD has recorded encouraging performance figures. "In the first quarter we achieved an 8.8% increase in passenger traffic over the previous year and the airport welcomed four new airlines including RwandAir, Camair-Co, Air Peace and Air Senegal."

The airport currently serves 31 airlines flying to Africa, North America, South America, Europe and the Middle East.

As Mary explained: "Following requests from our country's president, Macky Sall, we are working towards providing Senegal with an economic tool that will help it to develop both business and tourism, enhancing the international image and reputation of the country."

Indeed, Mary believes that the project planning for the airport was excellent, laying the foundations for many years to come. "AIBD has established itself as an airport of the future. It covers 2,500 hectares with almost as much (2,000 hectares) in reserve and it's already equivalent to many European regional airports."

□ □ □ □ □

The airport has a 3,500 metre runway to accommodate the large wide-bodies, including the Airbus A380, and it also features a 50 metre high control tower; six telescopic bridges; seven traffic lanes; 50 parking positions; a 2,270sqm pilgrim terminal; and a cargo terminal with a capacity of 50,000 tonnes per annum.

"Today AIBD, which complies with International Air Transport Association 'B' level standards, has an annual capacity of three million passengers but this is expandable to 10 million," said Mary. "Given the land reserve and the space we have, we can easily meet future demand and, when required, we can build a second runway using the existing control tower."

AIBD is located in Diass, 47km south east of Dakar. It will soon be connected to the capital by a regional express train (TER) being designed and implemented by French company, Engie INEO, in collaboration with Thales and the Compagnie Sahelienne d'Entreprise (CSE). Within two years, the new railway will link Dakar-Diarnadio-AIBD and form the backbone of the region's transportation network.

Xavier Mary: «Après la phase de décollage, nous sommes dans la phase d'ascension. Nous atteindrons bientôt notre phase de croisière »

# L'ASECNA au cœur de la navigation



Mohamed Moussa: « Mon ambition est de créer un ciel unique pour l'Afrique. »

*L'Agence pour la sécurité de la navigation aérienne en Afrique et à Madagascar (ASECNA) assure des services vitaux qui garantissent la sécurité des vols en Afrique. Vincent Chappard a rencontré Mohamed Moussa, son directeur général, à Paris.*

L'ASECNA assure la gestion intégrée des espaces aériens et de la fourniture des services de sécurité de la navigation aérienne d'un espace aérien de 16,1 millions km<sup>2</sup>. L'agence regroupe 18 Etats membres dont 15 Etats d'Afrique de l'Ouest et du Centre, Madagascar, les Comores et la France.

Créée il y a environ 60 ans, l'ASECNA a acquis une expertise en matière d'études, d'ingénierie et de maîtrise d'ouvrage.

Elle assure la maintenance de l'ensemble des installations et des équipements dont elle a la charge.

Elle réalise également la calibration et le

contrôle en vol et dispose pour cela d'un avion laboratoire de type ATR42.

L'agence est pilotée depuis 2017 par Mohamed Moussa, un homme aux multiples vies et distinctions.



Il fut notamment technicien de maintenance, instructeur, administrateur de l'ORTN, ministre de l'Intérieur et du Transport du Niger et conseiller du Premier ministre.

Il est également un chef traditionnel touareg de tribus entre le Niger et le Mali. Il allie ainsi modernité et tradition tribale africaine.



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# aérienne en Afrique

Sa feuille de route pour l'ASECNA repose sur trois piliers. Le premier est d'assurer une bonne gouvernance au sein des trois organes qui la composent (conseil des ministres, conseil d'administration et direction générale).

« La gouvernance doit être partagée et équitable entre les 18 Etats membres avec pour principe que chaque état puisse voir ses problématiques résolues dans le cadre communautaire », affirme Mohamed Moussa.

Le second consiste à promouvoir les compétences, l'expertise et l'excellence.

Depuis sa création, l'ASECNA dispose de trois écoles : l'EAMAC à Niamey, l'ERSI à Douala et l'ERNAM à Dakar.

Selon Mohamed Moussa, l'ASECNA doit intensifier la préparation aux métiers et trouver des formateurs pour former les équipes déployées dans les pays membres.

Le troisième est l'amélioration continue de la sécurité au niveau de la navigation aérienne.

Moussa souligne deux aspects majeurs notamment le facteur humain et l'évolution des équipements et des moyens de contrôle. L'ADS-B

terrestre est par exemple en cours de déploiement dans l'espace aérien de l'Agence.

« Nous sommes passés d'un simple mécanisme de contrôle aux procédures à un mécanisme de contrôle au radar. Fin 2019, les 17 aéroports internationaux des capitales des Etats membres passeront au guidage par radar. »



L'ASECNA déploie également le programme SBAS visant à fournir des services fondés sur le programme européen EGNOS à partir de 2021/2022.

Il permettra de renforcer les opérations de navigation et de surveillance pour toutes les phases de vol.

Moussa souhaite fédérer davantage les États africains afin d'arriver à une gestion coopérative des espaces aériens.

« Mon ambition est de créer un ciel unique pour l'Afrique, un continuum d'espace supérieur qui permet une fluidification de la circulation aérienne. »

## SUMMARY

### ASECNA IN THE VANGUARD OF AFRICAN AIR SAFETY

Commercial aviation in Africa has been undergoing much change and the Agency for the Safety of Air Navigation in Africa and Madagascar (ASECNA) provides vital services that help to ensure flight safety throughout the continent.

The agency's general manager, Mohamed Moussa, said ASECNA ensures the integrated management of commercial aviation and the provision of air navigation safety services in an airspace comprising 16.1 million square kilometres. It brings together 18 member states, including 15 states in west and central Africa, Madagascar, the Comoros and French-governed islands.

His roadmap for ASECNA is based on three pillars. The first is to ensure good governance in each of the three bodies it comprises – the council of ministers, the board of directors and the general management team. Secondly, the agency must promote skills, expertise and excellence.

And finally, it must encourage a culture of the continuous improvement of aviation safety.

Founded more than 60 years ago, ASECNA also performs calibration and flight control and has an ATR42-type laboratory aircraft that it uses for this purpose.



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Chukwu Emeke *looks at a new open investment plan in Nigeria.*

# A FAANtastic opportunity...

“The airport keeps growing and so we must keep improving on technology.”  
ENGINEER SALEH DUNOMA

The Federal Airports Authority of Nigeria (FAAN), which manages more than 20 airports serving as a gateway into one of Africa’s leading economies, recently unveiled plans to offer four of its international airports to interested investors.

FAAN chief executive officer, Engineer Saleh Dunoma, said that apart from efforts to upgrade the pace of development for the nation’s airports, the decision is part of a modern approach to airport business involving the widening of scope for private investor engagement.

Five firms – Dentons, Rebel, WSP Parsons, Brinckerhoff and Proserve – have been appointed as transaction advisers to the Government. The four airports involved are Nnamdi Azikiwe International Airport, Abuja; Murtala Muhammed International Airport, Lagos; Mallam Aminu Kano International Airport, Kano; and Port Harcourt International Airport.

Nigeria’s overall passenger traffic for January to September 2017 was 9.2 million and observers have expressed concerns as to whether this is enough to attract private investment.

However, Dunoma said: “Investors know what they are looking for; they want potential. The traffic is growing and Nigeria is the pivot of business in Africa. The consultants are working. When they finish the development of the business case and come up with the entire documentation that is needed, we can then present it to investors.”

He identified areas of potential investment as maintenance, repair & overhaul (MRO) facilities, and development of agrolled infrastructure, among others.

Dunoma appealed to local industry players to pool their resources and skills in order to attract investors to set up aircraft maintenance centres, for instance, as an alternative to using MRO services overseas.

Discussing complaints of high airport charges by service providers, Dunoma said: “It depends on who you are talking to. If you talk to airlines, they tell you the charges are high. If you talk to passengers, they tell you the ticket charges are high. As an airport operator, I will tell you the charges are not high at all.”

Lagos and Abuja international airports were certified by the Nigerian Civil Aviation Authority (NCAA) in 2017 and the US

Federal Aviation Administration (FAA) category one status, that was granted in 2010, was retained. Dunoma said efforts are being made to extend such certification to other airports.

“We brought another team of experts to look at the airports at Kaduna, Kano, Enugu and Port Harcourt,” he said. “There is an on-going audit on safety and security, which looks at gaps that should be closed for certification. Very soon, we will certify these international airports and move to the domestic airports. This will be done within a given timeframe. The emphasis in aviation is safety and security.”



Dunoma stressed that the only way to succeed in airport business was to carry out the business seamlessly in order to build trust with airport users. “The airport keeps growing and so we must keep improving on technology. We have measures in place but when you address one security challenge, another one comes back in a different form. Improving on our security is a continuous thing.

“There are two contracts going on in Lagos and Abuja to cover all the restricted areas with CCTV. We are buying mobile technology with a camera that will cover up to seven kilometres. We have improved very much on security patrols and we are working on full CCTV coverage in the five international airports where we have additional infrastructure.

“By the time we have a perimeter fence, adequate CCTV coverage and other technologies, security will improve. It is continuous and we will continue to improve.”

He said Nigeria was one of the few countries that signed the Airports Council International (ACI) airports excellence in security (APEX) programme in 2017, adding that Nigeria has been at the forefront of striving to attain the highest levels of safety standards in Africa.

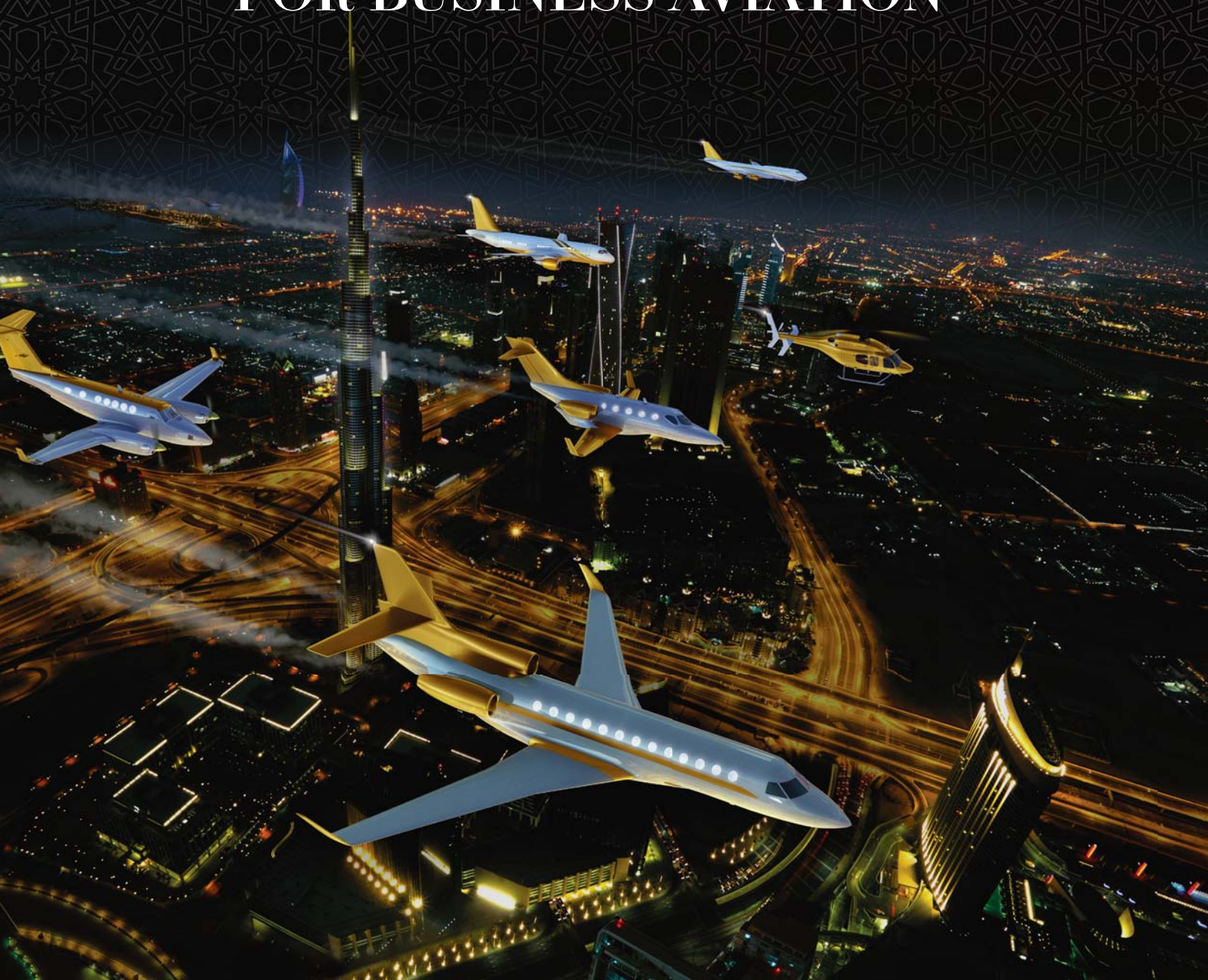
“Our goal is to certify all our international airports and we are working tirelessly to achieve that. We have taken the bold step to carry out the APEX in safety programmes in our international airports. The APEX review for Kano and Port Harcourt were carried out in March 2018, while reviews for Enugu and Kaduna airports will soon be completed,” he concluded.



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La 6ème édition du Marrakech Air Show se tiendra du 24 au 27 octobre 2018 sur la Base Ecole des Forces Royales Air. Gaël Pineau, son directeur, a présenté à **Vincent Chappard** les nouveautés et les enjeux de ce rendez-vous incontournable du transport aérien en Afrique.

## UNE ANNEE VINTAGE POUR GAËL PINEAU

**G**aël Pineau, directeur du Marrakech Airshow, souligne: « Le Marrakech Airshow 2018 a pour vocation d'être une référence et de mettre en place une plateforme de l'ensemble des services du transport aérien pour l'Afrique. Une attention particulière sera accordée à la promotion des capacités industrielles des participants et à la consolidation de la vocation africaine du royaume du Maroc ».

Cet événement est placé sous le haut patronage du roi Mohammed VI du Maroc et sous l'égide du ministère de l'Industrie, du Commerce, de l'Investissement et de l'Economie numérique, ainsi que de l'Administration de la Défense Nationale et des Forces Royales Air. L'ONDA et le GIMAS sont des partenaires officiels du salon.

300 exposants issus de 80 pays y sont attendus ainsi que 50 000 visiteurs (dont 6000 professionnels) et une centaine de délégations officielles internationales civiles et militaires. Il y aura 50 à 70 avions en statique et en démonstration.



Grande nouveauté, l'organisation en marge du salon d'un symposium des chefs d'état-major africains, portant sur la sécurité et la défense. Celui est initié par le Commandement de l'Armée de l'Air Américaine en Europe et en Afrique, avec le soutien des Forces Royales Air du Maroc. Plus d'une centaine de hauts responsables militaires des forces aériennes d'une quarantaine de pays africains y participeront.

« Nous avons en effet modifié les dates du salon pour synchroniser ces deux événements. Cela permettra de créer une continuité et des opportunités d'affaires pour les exposants et les visiteurs », précise Yassine Hlioua, Senior Project Manager au sein du Marrakech Airshow 2018.



Autre nouveauté pour l'édition 2018, plus de participants et d'exposants au niveau international. Parmi les nouveaux venus, on compte la Russie, l'Ukraine et la République tchèque.

Le comité d'organisation est en négociation avec Rosoboronexport. On devrait voir le Superjet 100. Les Etats-Unis et le Canada maintiendront une forte présence. La République Populaire de Chine sera également présente à travers l'organisme CATIC.

C'est surtout la Turquie qui arrive en force au Marrakech Airshow 2018. La star du salon devrait être la présentation et les démonstrations aériennes de l'hélicoptère turc T-129. Celui-ci est un dérivé de l'A.129 International

**Gaël Pineau:**  
« Il s'agit de mettre en avant le savoir-faire du Maroc et plus globalement celui de l'Afrique dans le développement des services associés aux aéroports, aux avions, à la supply chain aéronautique mondiale à travers la mise en place d'écosystèmes spécialisés. »

développée par Turkish Aerospace Industries. Il attire l'attention des autorités marocaines et d'autres pays d'Afrique. Ce sera l'occasion pour la délégation turque de rencontrer les délégations militaires sur place.

Parmi les innovations dans le nouveau positionnement du salon, le Marrakech Airshow fera la part belle aux nouvelles technologies du secteur.



« Il s'agit de mettre en avant le savoir-faire du Maroc et plus globalement celui de l'Afrique dans le développement des services associés aux aéroports, aux avions, à la supply chain aéronautique mondiale à travers la mise en place d'écosystèmes spécialisés », ajoute Gaël Pineau.

L'impression 3D sera ainsi mise en avant tout comme la fabrication additive. Après l'inauguration récente de sa première usine, Thales souhaite installer un centre d'excellence de cette technologie au Maroc. Les autorités marocaines mettront également en avant le nouvel écosystème de Boeing. Suite au partenariat signé en mars dernier à







Tanger, le nombre d'industriels de la sous-traitance aéronautique devrait doubler dans le royaume.

Selon Karim Cheikh, le nouveau président du GIMAS, l'année 2017 a enregistré la plus forte croissance au Maroc, principalement organique, depuis cette dernière décennie en atteignant les 20%.

« Notre écosystème s'est également enrichi avec l'implantation des acteurs clés qui s'installent ou qui viennent compléter les chaînons manquants de la supply-chain aéronautique mondiale. Nous souhaitons nous développer dans des secteurs portés par la technologie de l'avion de demain, sur le composite, l'électronique embarquée et la MRO. »

Le GIMAS compte bien relever le défi de l'innovation avec la création toute récente d'un « Aerospace Moroccan Cluster ». Cette nouvelle structure du GIMAS sera dédiée à l'innovation.

Le Marrakech Airshow 2018 se donne ainsi pour mission d'accompagner les mutations et l'essor considérable de l'industrie aéronautique et du transport aérien en Afrique. Il s'agit aussi de créer des synergies et de l'entraide entre les pays de la région. ■

**Démonstration en vol au Marrakech Airshow.  
Flight demonstration at the Marrakesh Airshow.**

## SUMMARY

# PINEAU PROMISES A VINTAGE YEAR

*The sixth running of Morocco's Marrakech Air Show takes place from October 24-27 at the country's Base Ecole des Forces Royales Air – the prestigious Royal Air School. The school's director, Gaël Pineau, tells Vincent Chappard what's planned.*

Morocco, thanks to its strategic position and benefiting from a marked rise in the quality of its industrial services, is now positioning itself as a platform for the sector's growth throughout the continent.

The show aims to support the significant growth of the national aeronautical industry marked, particularly in the last decade, by the presence of some of the world's leading aerospace companies.

More than 300 exhibitors from around 80 countries are expected to attend, while in excess of 50,000 visitors (including 6,000 directly involved in the aerospace industry) and at least 100 international civil and military delegations will also be there.

The static display is expected to feature up to 70 aircraft and there will be a daily flying display.

Held with the support and patronage of Morocco's King Mohammed VI, and under the auspices of the country's Ministry of Industry, Trade, Investment and the Digital Economy, the show will also enjoy support from the National Defense Administration and the Moroccan Royal Air Force.

Official partners include Morocco's National Airports Authority (ONDA) and GIMAS, the umbrella body that represents the interests of the country's growing aerospace industry.

Pineau, who is also director of the air show, said: "The event aims to be a reference point for the growth of all air transport activities in Africa and special attention will be given to promoting the industrial capabilities of exhibitors, while consolidating the African focus of the burgeoning aerospace industries based in the Kingdom of Morocco."



For the first time, a 'fringe symposium' on security and defence has been organised for continental Africa-based air force chiefs of staff. This has been supported by the US Air Force in Europe and Africa, with additional backing from the Royal Air Force of Morocco. More than 100 top military air force officials from some 40 African countries are expected to attend.

"We have changed the dates of the show so that we can synchronise these two events, thus creating continuity and business opportunities for exhibitors and visitors," explained Yassine Hlioua, the air show's senior project manager.

There will be more international participants and exhibitors, including newcomers Russia, Ukraine and the Czech Republic.

It is hoped that Russia's Rosoboronexport will exhibit the Superjet 100, while both the US and Canada will have a major presence. The People's Republic of China will also be exhibiting through the CATIC organisation.

Despite its current financial woes, it is hoped that the Turkish aerospace industries will arrive in force. One of the undoubted stars of the flying display is expected to be the TAI/AgustaWestland T129 ATAK military attack and tactical reconnaissance helicopter, developed by TAI. This aircraft is already attracting attention from air forces in Morocco and throughout Africa.

"As well as highlighting the Morocco-based companies' know-how, the show will create the opportunity to promote organisations from elsewhere in Africa, where there is considerable development of services associated with airports, airlines and aircraft," said Pineau.

One feature is expected to be the growing importance of 3D printing and additive manufacturing. French company, Thales, which has recently opened its first plant in Morocco, is planning to create a 'centre of excellence' for this technology in the country.

Moroccan exhibitors will also be highlighting Boeing's newest ecosystem project and, following the recent signing of a partnership agreement in Tangiers, the number of subcontracting aerospace manufacturers in Morocco is expected to double.

According to Karim Cheikh, the new president of GIMAS, this year has seen sector growth of around 20%.

He said: "Our ecosystem has also been enriched by the establishment of key players who are setting up in sectors driven by the technology of tomorrow's aircraft, including composites, embedded electronics and MRO."

Jon Lake looks at the reasons why Morocco is seeking new fighters and attack helicopters.

# Threats and peace-keeping needs top of the shopping list

**A**lthough Morocco has not fought a conventional interstate war since the Algerian-Moroccan conflict of 1963, it has faced a long-standing security threat from the Polisario Front in the disputed territory of Western Sahara.

This has led to simmering tension with neighbouring Algeria, and Morocco has maintained its armed forces at a relatively high level of capability for counter insurgency operations in order to deter aggression and to be ready to fight a peer-level adversary should that deterrence fail.

In recent years, Morocco has shown an increased willingness to participate in international peace-keeping operations, and to enter into war-fighting operations alongside its allies.

Most recently, this led to the participation of the Royal Moroccan Air Force in the Saudi-led air campaign in Yemen.

But the Royal Moroccan Air Force's small F-16 fleet (23 aircraft, including eight F-16D two-seat trainers) is too small to meet all requirements, while the ageing Mirage F1s and Northrop F-5Es may not be sufficiently capable for the highest-end war-fighting operations, despite recent upgrades and modernisation programmes.



When the Moroccan army was placed on high alert as a result of increased recent tensions with Polisario separatists in the north-west of Western Sahara, there were reports that the country would have to withdraw its F-16s from the Saudi-led coalition operation 'Decisive Storm' against Houthi rebels in Yemen.

Though the 24 F-16Cs and F-16Ds, delivered in 2011 and 2012, equip three squadrons (known as Falcon, Spark, and Viper) of the sixth Air Base at Benguerir, the unit has never really been at full wing strength. One F-16C was lost on May 10 2015 during combat operations over Yemen.

The addition of 12 new aircraft would certainly allow for greater deployment flexibility.

Morocco's F-16s are well equipped with Lockheed Martin Sniper targeting pods,



Goodrich DB-110 airborne reconnaissance pods, and Raytheon's advanced countermeasures electronic system (ACES).

Armament includes the AIM-120 AMRAAM long-range missile, AIM-9X Block II Sidewinders with lock-on-after-launch capability, AGM-65D Maverick air-to-surface missiles, and Enhanced GBU-12 Paveway II laser-guided bombs.

To overcome the shortfall in F-16 numbers, Morocco is planning to acquire 12 new single-seat F-16V Vipers, and to bring its existing Block 52 F-16 fleet to the same standard as the F-16V.

The F-16V is the latest version of the Fighting Falcon and features an AN/APG-83 active electronically scanned array (AESA) scalable agile beam radar (SABR) an upgraded mission computer, an automatic ground collision avoidance system, and an improved avionics architecture. It also boasts an increased life airframe and improvements to the cockpit.

**Moroccan F-16C: the type is well equipped with sniper targeting pods.**

No order has been placed, however, and for the time being, the Royal Moroccan Air Force will have to rely on its existing F-16s, augmented by 27 Mirage F1s (F1CH, F1EH and F1EH-200). These have been upgraded to MF2000 standards, with a new radar, a new weapons management system, cockpit improvements, including liquid crystal displays and hands on throttle and stick (HOTAS) controls, and survivability enhancements.

The F-16s and Mirage F1s are backed up by about 22 F-5Es and four two-seat F-5Fs. These have also been upgraded with FIAR Grifo F/X-Plus radar, cockpit improvements, including a new heads-up display (HUD), and controls, Elettronica ELT/555 active electronic countermeasures (ECM) pods, and a new EWPS/-100 (DM/A-104) radar warning receiver.



For a nation facing an asymmetric, insurgent threat, combat helicopters may represent a more relevant capability than fast jets.

Morocco operates a sizeable helicopter fleet, including about 20-23 SA 342M and 342L Gazelles, armed with a variety of anti-tank missiles and other ground-attack munitions.

The Gazelles have proved effective against the Polisario's armoured vehicles, which include T-54/55 tanks and BMP armoured personnel carriers.

On one occasion, Gazelles used HOT missiles to destroy 18 T-55s and BMPs near Tan Tan.

However, the Gazelle is becoming hard to support, and lacks the capabilities of more recent attack helicopters. Morocco is known to be looking to acquire a replacement.

In June 2018, a delegation from the Royal Armed Forces visited the Turkish Aerospace Industries headquarters in Ankara, reportedly to negotiate the purchase of T129 ATAK attack helicopters.

Earlier, it had been reported that Morocco was in negotiations with Boeing for the purchase of AH-64 Apache helicopters. ■





# AEROSPACE ON A ROLL IN MOROCCO

**Moulay Hafid Elalami, Morocco's Minister of Industry, Trade Investment and Digital Economy, opens Hexcel's new plant in Casablanca.**

*Morocco's aeronautical ecosystem continues to grow, integrating new operators and new technologies. Anuradha Deenapanray and Vincent Chappard spoke to Karim Cheikh, the new president of Morocco's aeronautical and space industries group (GIMAS).*

**S**ince the early 2000s, Morocco has been attracting aerospace equipment manufacturers and French SMEs like Safran Group, Zodiac Aerospace and Daher.

In 2014, new international groups such as Bombardier, Eaton, Stelia Aerospace, Alcoa and Latecoere joined in.

Today, aviation activity in the kingdom keeps on growing with more incentives given to investors.

"Last year witnessed 20% growth, mainly organic, which was the strongest performance for a decade," said Karim Cheikh, the new president of GIMAS.

"Our ecosystem has also been enriched by the establishment of key players, who are setting up or completing the missing links in the global aerospace supply chain."

One example of this was Thyssenkrupp Materials Services, which announced the construction of a sales and production site to strengthen its aerospace business. "This new site underscores our ambition to be a reliable and solid partner for our customers," explained CEO Joachim Limberg.

Hexcel has launched its new production site in the MidParc Free Zone in Casablanca. At the inauguration, Moulay Hafid Elalami, Minister of Industry, Trade Investment and Digital Economy, welcomed the development, emphasising that engine ecosystems and composite materials were significantly creating added value, which Hexcel would help support and strengthen.

Four ecosystems have been launched in the aeronautics sector as part of the industrial acceleration plan. These include assembly, electrical wiring and harness (EWIS), MRO, and engineering.

For Cheikh, each ecosystem has its own challenges. "We must further integrate new technologies and strengthen local integration in the industrial fabric," he said.

Daher has inaugurated its new industrial site in Tangier. After more than 15 years of operation in Morocco, the equipment manufacturer is now present through three sites.

"Our main intention is to improve the performance of our

supply chain, to gain more maturity and added value," added Cheikh.

The new 3D metal printing plant inaugurated by the Moroccan authorities and Thales in the free zone of MidParc constitutes a major breakthrough in technologies of the future. It specialises in 3D laser aluminium and titanium printing. This plant epitomises the ambition of Thales in Africa.

Morocco's prospects for the coming years are positive and encouraging as it has a solid order book. This organic growth will double the turnover of the export sector to reach \$2 billion within five years.



GIMAS wants the dynamism in this key sector of the country's economy to gain more momentum.

"We want to expand in sectors driven by the future aircraft technology, composite, embedded electronics and MRO," underlined Cheikh.

Morocco also wishes to forge cooperative ties with other regions and, in particular, with the Middle East. Morocco and the UAE signed several agreements during the fifth session of the joint Morocco-UAE commission.

Several Emirati companies have expressed interest in investing in Morocco, particularly in the aeronautics sector, due to its geographical proximity with the European Union and the United States. Moroccan companies will also explore investment opportunities in the UAE, which is a leading logistics platform for western Asia.

For Cheikh, the sector faces continuous challenges, which necessitate improved technical and industrial skills. Hence, there's a huge demand for training to meet the needs of the growing industry as well as global aerospace industry standards.

GIMAS is going to tackle the innovation challenge through the recently launched Moroccan aerospace cluster. ■

Morocco initially operated three EC-130Hs with SLAR systems, but only one survives today. One was lost in an accident in 2012, while another was shot down by an Algerian Air Force MiG-23 in 1981.

PICTURE: ALAN WARNES



# SPY WARS IN THE SKIES

**Alan Warnes** looks at the tense spying game being played out between Morocco and Algeria.

**T**ensions flared between Morocco and Algeria in early April when the former's government accused its long-time foe of allowing Polisario Front fighters through its border.

The freedom fighters, recognised by the United Nations, come from the Sahrawi refugee camps around Tindouf, inside Algeria. The Polisario Front is a national organisation, and a legitimate representative of the Sahrawi people in Western Sahara, which has been trying to take back the region since Morocco annexed it in 1972.

□□□□□

The Western Sahara War, which started after Morocco's annexation of the former Spanish colony in 1975, ended in a peace settlement in 1991. However, there has been no lasting resolution to the conflict. Instead, a UN buffer-zone has been drawn up and Morocco is threatening to take it over if the Polisario Front is not stopped.

So, it is not surprising that there are deep tensions between the two north African countries and, as a result, both have been introducing tactical reconnaissance systems since the late 70s specifically for their intelligence, surveillance and reconnaissance roles.

Due to their political alignments, the

countries have taken different routes. Morocco looks to the US and France, while non-aligned Algeria follows the orbit of the former Soviet, and now Russian, supply chains.

Equipment was initially related to fighters, modified for carrying reconnaissance mission systems. Algeria used MiG-21 Fishbeds fitted with Vinten pods and MiG-25R Foxbats, while Morocco looked towards the RF-5A and Mirage F1s, equipped with French reconnaissance pods.

Due to the need to support its soldiers on the ground, the Royal Moroccan Air Force (RMAF) upgraded three C-130s in the late 70s. They were equipped with Motorola ground movement target indicator (GMTI) and sideways-looking airborne radar (SLAR) systems.

When one of the Hercules was shot down by a MiG-23, launched from Tindouf Air Force Base on October 12 1981, both sides nearly went to war. However, diplomatic efforts from the UN won the day.

The Moroccan fleet took yet another major knock on July 26, 2011 when one of the two surviving EC-130Hs crashed in bad weather during a transport flight.

The intelligence, surveillance and reconnaissance (ISR)-equipped Hercules have made a massive contribution to

detecting Polisario fighters crossing the borders from their camps in Algeria, and have provided the early warning to ensure Moroccan troops were not ambushed.

Operating alongside the C-130s are a couple of Falcon 20s, which are equipped for signals intelligence (SIGINT) operations, mainly to provide advanced early warning (AEW) and acquire an electronic order of battle (a listing of non-communications electronic devices with possible military significance) for the RMAF.

□□□□□

The two Falcon 20s were upgraded in the late 90s but are now considered obsolete. This has led the RMAF to look at the possibility of using advanced business jets like the Gulfstream 550 or the Global Express 6000.

Procuring four strategic ISR platforms would go some way to defeating Algeria's deadly S-300 surface-to-air missiles (SAMS) or the Sukhoi Su-30MKA.

In the early 90s, Algeria needed a sophisticated and ambitious ISR requirement to keep ahead of the poor internal security situation. A civil war between the Algerian Government and an increasing radical Islamist insurgency, which today would be called terrorists, was claiming the lives of thousands of people.

The Algerian military started to introduce synthetic aperture radar (SAR), electro optical/infrared (EO/IR) systems



Algeria acquired the Leonardo ATOS for at least two of its Beech 350s.

PICTURE: LEONARDO.



# OVER NORTH AFRICA

and datalink capabilities, which at that time was unheard of in Africa – with the exception of Morocco and its EC-130Hs, of course.

In 1998, Northrop Grumman received the go-ahead from the US State Department to export a new ISR system based on the modification of six Beech-1900D regional airliners.



The \$207 million contract included the Raytheon high integrated synthetic aperture radar (HISAR) ground moving target indicator (GMTI) radar and a WDS-16 forward-looking infrared (FLIR) system, integrated with an L-3 tactical common data link (TCDL) and some mobile ground stations. It was an extremely expensive deal but Algeria needed the capability urgently.

However, it was plagued by problems, which started during the definition phase when it became obvious the aircraft was ill-suited for long ISR missions.

The Beech-1900D was originally designed as a small regional airliner, so the multi-mission surveillance (MMSA) version did not have the range, with all the new kit, to carry out long flights.

The Algerians did not have any coherent approach and the selection of the aircraft had nothing to do with a robust system definition, but aimed at pleasing certain commercial interests.

Algerian Air Force intelligence suffered

because the Beech-1900D could not stay airborne for more than two-and-a-half hours, even though the length of the mission should have been considered the prime factor in the selection process.

Most of the missions required only the use of the EO FLIR. The SAR GMTI HISAR radar was rarely needed because SAR was developed for use in countries with bad weather where EO/IR system are inoperative – clearly not the case in Algeria!

Also, insurgents in the mountains didn't rely on specialised vehicles to move around, rendering the use of GMTI marginal, to say the least.

Border surveillance missions requiring the GMTI radar capability were hampered by the very short range of the aircraft mission profile.

During 2014, the Beech 1900s are known to have been upgraded with the L3 Wescam MX-15 EO/IR systems.

In July 2016, Leonardo announced it had been selected to supply two Beechcraft King Air 350ERs with the airborne tactical observation system (ATOS) to an 'African country' (known to be Algeria). According to Leonardo, it is geared towards a growing demand for wide area surveillance and patrolling, targeted surveillance, environmental and disaster control, integrating a wide number of sensors and subsystems in a highly modular design.

Finmeccanica (now Leonardo) had already upgraded one of Algeria's aircraft

to a maritime patrol aircraft (MPA) variant in 2012. It was modified by the French company BCA, with the installation of SELEX Galileo's Gabbiano radar as part of the airborne tactical observation and surveillance system (ATOS).

The Algerian Air Force is thought to operate six reconnaissance-configured Beech King Air 350ERs, which were delivered a couple of years ago. They all wear civilian colours and are devoid of any national markings.



A series of measures was taken in 2014 to either modernise existing capabilities or add new strategic and tactical ISR programmes. These included:

- Modernisation of six existing Beech-1900D MMSAs;
- Transformation of four existing Beech-1900D liaison aircraft to MMSA next generation aircraft;
- Acquisition of five reconnaissance and surveillance tactical ISR aircraft; and
- Acquisition of three multi-mission strategic aircraft ISR business jets.

The strategic ISR solution was given to the Air Force Command Electronic Warfare and Reconnaissance Division. It awarded a \$1.1 billion contract to Raytheon Systems for three significantly modified Gulfstream 550s in 2015, allegedly without any serious or robust analysis of the requirement.

**The ISR-equipped Hercules have made a massive contribution to detecting Polisario fighters crossing the borders.**

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Basically, the Algerians required a business jet that could do tactical and strategic missions at the same time, without any differentiation between passive sensors and active ones.

The aircraft was required to carry a SAR radar for a signals intelligence (SIGINT) capability, which normally would be two different segments of the ISR spectrum. Israel, for example, uses a specific version of the Gulfstream (Nachson) for passive electronic intelligence/communications intelligence (ELINT/COMINT), while another Gulfstream operates with an active electronically scanned array (AESA) radar sensor.

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Algeria, probably due to a lack of expertise, relied too heavily on Raytheon, which is a very capable sensor design and manufacturing company but is not renowned as a platform integrator. Unfortunately, Raytheon didn't understand soon enough that a Gulfstream does not generate enough power to feed all the sensors that Algeria required for its radar – SIGINT, COMINT and dual EO systems etc.

Raytheon subcontracted the whole job of integration to a company based in Oklahoma City with little knowledge of the Gulfstream environment and structure. The US aerospace giant subsequently discovered that the aircraft electrical generation was largely insufficient to power all the sensors required.

In reality, the Algerian Air Force should have opted for a larger Boeing-737 or Airbus-320 size aircraft to fulfil its requirement.

The Algerian Air Force does not appear to have learnt from the Beech-1900D MMSA saga and no one knows, three years on, when the aircraft will be delivered. They will be massively obsolete, since the aircraft do not encompass modern technology due to the heavy limitations imposed by the US State Department.

In 2014, Algeria launched a request for information (RFI) for the acquisition of five tactical ISR aircraft with provision to weaponise them. The intent was to use them in a tactical ISR role, where the target of opportunity could be engagement in an autonomous way.

This constituted an improvement tactically. Previously, ISR aircraft had been obliged to transmit all their data to a ground station without the possibility of engaging a time-critical target.

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The Algerian MoD selected the Alenia MC-27J, which is a weaponised version of the tactical Transport C-27J operating with an ATK palletized 30mm gun. The C-27J has already been adopted by Morocco and Chad in its transport version.

However, according to one insider: “Algeria doesn't look to be benefitting from an advanced system in a net centric environment. It really needs an ISR platform that can provide, via a tactical datalink, an overview of the battlefield and a target cueing system for off-board

“Morocco is known to be reviewing its needs for its next generation of ISR aircraft.”

weapon systems, like the newly acquired Mi-28NE Attack helicopter, for example.

“There is also no provision to have the ISR platform to work in an increasingly complex environment where manned and unmanned platforms operate together and share the same battle space.”

Algeria clearly does not understand the benefits of real-time digital information exchange. Morocco, on the other hand, has adopted a Link-16 datalink system as the backbone to its current and future joint force operations.

Morocco is known to be reviewing its needs for its next generation of ISR aircraft, taking into account the threat posed by anti-access aerial denial (A2/AD) system – the S-400 SAM which its neighbour is looking to acquire.

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Morocco now relies on a set of two reconnaissance satellites, provided by Astrium France, which can image any point in Algeria every two hours. This provides the RMAF with a huge targeting tool that can't be challenged by the Algerians, which means they can spy and designate a target in their neighbour's territory at ease – a tool much more powerful than putting an expensive radar with limited side views on a Gulfstream.

The difference between the two African foes is Morocco is completely focused on doing what is best for the defence of its country, while Algeria appears to be distracted by its commercial interests and not keeping up-to-date with the latest in military technologies. ■

Morocco's F-16s equipped with the UTC DB 110 tactical reconnaissance pod can be called upon whenever areas along its border with Algeria need to be checked out.

PICTURE: ALAN WARNES





*Paul Boshier looks at the changing role and increased importance of communications in African border security and examines the part that satellites can and should play in enforcing a safe and controlled environment.*

# Satellites the X-factor in border security



**Nations are under pressure to monitor and control activities and mitigate threats at their borders.**

■ **Paul Boshier is the director of international business at XTAR, which delivers X-band as a dedicated military/government resource to provide a cost-effective, resilient and reliable solution to many border security problems.**

**T**he problems of border security affect all nations across Africa. In an ever-more competitive world, amid widespread terrorist activity, illegal immigration, refugee flight and transnational crime, concerns over national security, national defence and economic, food and water security, make border policing a national priority.

Constrained budgets and security forces stretched thin to cover the many national priorities highlight the stark vulnerabilities across national borders that become ever more susceptible to terrorism, illegal migration and transnational crime.

At their very core, borders are merely notional lines drawn on a map aiming to define national boundaries.

Enforcing and policing these vast areas has always been a complex task.

Solutions can differ widely – just look at the open border policy of the European Union contrasted with the US/Mexico ‘wall’.

Now, more than ever, nations are under pressure to monitor and control activities and mitigate threats at their borders – from terrorism threats to illegal fishing and polluting of waters – as well as the control of movement of weapons, drugs and people.

As the challenges to national integrity have increased, so has the need to develop effective responses, with nations turning to space for alternatives.

The sheer size of African borders and their remoteness have left emerging countries bereft of significant border infrastructure. These remote and often inaccessible locations, and lack of development, leave few effective terrestrial options.

Now, however, satellite communication has become a viable alternative that can deliver solutions to enable

governments to control its assets along the border, whether they are airborne, maritime or land-based.

While satellite imagery is adding another dimension to the intelligence, surveillance and reconnaissance (ISR) suite, the ability to communicate securely, either by voice or data, remains the force enabler that grants commanders and politicians the situational awareness to make well informed and timely decisions.

Understanding the need for satellite communications and selecting the best solution can be a daunting task. The proliferation of satellite fleets with new technology has created large capacity in orbit ready to service the needs of the user, but have made the selection of the appropriate solutions difficult for those who are untrained.

Governments have some advantages, though. Unlike commercial entities, governments and militaries can take operational advantage of a frequency band (X-band) reserved specifically for their use only.



Its technical advantages are numerous and, significantly, unlike its commercial counterparts (Ku-band and Ka-band) it is less susceptible to rain/dust attenuation and does not suffer adjacent satellite interference. This combination allows the user to experience increased performance availability, better data rates in all weather conditions, no down time and greater reliability.

This results in delivery of critical communications on a commercially available, dedicated network designed to provide a robust data throughput.

Using X-band to link land, maritime and airborne assets in a coordinated approach can free up Ku-band and Ka-band resources to meet civilian requirements, such as broadband to African homes, banking and education.

Technology advances can aid border security, ranging from 360-degree radar surveillance, biometric data collection, thermal and IR cameras and beyond. All this technology deployed on border regions needs to be captured and transported from source – even if it is mobile.

Satellites can provide an effective way to do this, giving users the flexibility to pull information from mobile or static sources anywhere in their region, and deliver it to multiple locations in real time.

Every requirement to meet border security challenges is unique but the need to communicate remains constant.

The right type of satellite communications for critical missions can overcome the natural obstacles of weather, vast terrain and remote locations, to connect the decision-makers instantly with problems as they occur enabling fast, effective and decisive action to address the issues. The X-band provides a natural solution that could benefit many African governments. ■



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*When Air France and KLM merged in 2004, they created one of the world's biggest maintenance, repair and overhaul (MRO) operations with deep roots in Africa – AFI KLM E&M.*

**Chuck Grieve** looks at the company's current activities and the way forward.

## MERGER MAINTAINS ITS PLACE AT THE HEART OF AFRICA'S MRO

**A**frica is familiar territory to Air France Industries and KLM Engineering & Maintenance (AFI KLM E&M) – its two parent airlines have been there for more than 75 years and the company shows every intention of developing with the market.

“Overall, we are seeing strong AFI KLM E&M activity throughout the continent,” said Jean-Michel Picard, vice-president for sales in Africa, who foresees further investment in “this high-growth market”.

With one of the biggest MRO networks in Africa and the world, the Franco-Dutch operator supports current aircraft and operators, while taking the long view with its MRO Lab and forward-looking approach to flexible and adaptable support.

The company says being the MRO arm of an airline that faces the same limitations and challenges common to all airlines is a benefit for its customers, who number more than 200 globally. They include passenger airlines of all description, cargo carriers, lessors and governments, for combined total of almost 2,000 aircraft.

AFI KLM E&M is also developing partnerships with original equipment manufacturers (OEMs) for cost efficiencies in maintenance. Its partnership with Boeing, for example, covers a component maintenance programme for the 737NG and 737 MAX.

In the group 2018 first quarter review, AFI KLM E&M noted a strong increase in third-party revenues, up 16% to almost 950 million Euros on the back of its engine business. Reports indicated an increased demand for engine overhauls, particularly the CFM56, was one of the main reasons for a 17% increase in its order book, which now extends about five years.

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“We have plenty of strengths to drive our success.”  
JEAN-MICHEL  
PICARD

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Picard said AFI KLM E&M has always maintained a strong presence throughout Africa. Long-standing contracts with airlines such as Air Cote d'Ivoire and Congo Airways in west Africa, and Kenya Airways and Ethiopian Airlines in east Africa are evidence of this.

The company also supports current projects, such as the new Air Senegal and the rebranded Mauritania Airlines, which placed firm orders for two Embraer E175 mid-range aircraft at the 2018 Farnborough International Airshow as part of its modernisation and expansion.

And, although its involvement in South Africa "has fallen off slightly" despite the growth of new airlines, the MRO has "bolstered our position" with Air Mauritius and Air Austral in southern Africa.



North Africa is a success story for AFI KLM E&M. Here, said Picard, its business is expanding, "especially as regards Tunisair, with which we have signed a CFM56 engine support contract, and Royal Air Maroc (RAM), to extend support for its fleet".

With RAM, a business relationship spanning more than 30 years evolved into the setting up of Aerotechnic Industries (ATI) in 2010 as one of AFI KLM E&M's seven global strategic joint ventures (JVs).

ATI operates four MRO bays at its Casablanca base, focusing on the narrow-body, medium-haul aircraft that dominate African airline fleets.

The JV provides comprehensive facilities for checks on Airbus A320s and Boeing 737s, which is a strength, said Picard, adding: "It is also the only centre in north Africa able to do so."

Most of ATI's activity involves Air France KLM and RAM fleets, but third-party clients



Support for CFM56 and Leap engines is a major part of AFI KLM E&M's African business, including the work of the ATI joint venture.



also benefit from what he described as the attractive rates and quality of service on offer.

And business is good. "ATI is running at full capacity," said Picard, "and we are even sending them airlines that we support, such as Congo Airways.

"Having a maintenance facility in Morocco is a very real asset for us.

"Other airlines are asking us to do the same for them in their respective countries, such as Tunisia and Egypt."

Ties between France and Africa have always been strong, said Picard. "Many African countries are French-speaking, and this makes things easier in relational, as well as professional, terms. Our experience and local presence go back a long way."

Picard said the Air France-KLM Group network, with 46 outstations in Africa, gives AFI KLM E&M an advantage, as does its broad engineering experience on airframes, engines and components. "We can mobilise teams that are on call 24/7 to carry out repairs in any African country. This is important, because often the fleets operated by local airlines are small and any aircraft on the ground (AOG) will have a significant adverse impact on their operations."

Last December, AFI KLM E&M signed a new engine support contract with Tunisair covering CFM56 engine variants in the airline's mixed fleet of A320s, A319s and 737s. A major factor in Tunisair's decision to award the contract was the MRO's ability to handle all three engine types simultaneously.

Then, when Tunisair needed four engines returned to serviceable condition before the summer, AFI KLM E&M was able to move swiftly to handle that one-off commission.

One engine was returned to service by a technical team working on-site in Tunis, while the other three were taken to the MRO's shop for repair.

Having the back-up of state-of-the-art capabilities at the company's main facilities at Amsterdam-Schiphol, Paris Roissy-Charles de Gaulle (CDG), Paris-Orly and Toulouse plays well for African customers.

Amsterdam boasts a new, ultra-modern engine maintenance shop, while Roissy-CDG recently commissioned its Zephyr very big engines (VBE) test cell. This development, described as part of the industrialisation programme for the General Electric GE90 turbofan engine, gives AFI KLM E&M a "unique" maintenance portfolio for VBEs, plus an aerostructures shop for work on their nacelles, aerofoils and radomes.

As for its African customers, Picard said: "We will continue to support established airlines as well as those that emerge in the future. Competition is fierce, but we have plenty of strengths to drive our success."

## MRO Lab captures employees' good ideas

AFI KLM E&M prides itself on a culture of innovation that it has worked to develop over many years.

Internal programmes promoting innovation in MRO services and processes, alongside partnerships with start-ups, universities and other aviation and industrial partners, have gone a long way to establishing a mindset of continual improvement among employees.

In 2015, AFI KLM E&M formalised its commitment to innovation by launching the MRO Lab. This 'adaptive innovation' programme is designed to group, structure, develop and add value to R&D and innovation throughout the company's global MRO network. It was extended in 2016 with the MRO Lab Singapore, set up to specialise in software solutions for MRO.

The MRO Lab's underlying principle is employee-driven innovation: any employee can submit and implement innovative ideas at any time, with the company's support. In two decades, it has received more than 100,000 suggestions.

AFI KLM E&M says the key idea is a "full-blown ecosystem 100% focused on delivering high-value-added solutions".

One such solution is the successful predictive analysis program, Prognos. Already in use for many types of engines and aircraft systems, this suite uses big data monitoring and analysis to identify potential failures before they occur, to optimise maintenance work.

AFI KLM E&M says the solution has already proven its effectiveness: the first systems covered by Prognos for aircraft were among the top five causes of flight delays and cancellations; those systems are no longer on that list.

The Prognos suite also covers engines and auxiliary power units and is being extended to all aircraft-critical systems.

Other notable MRO Lab innovations include an on-wing solution for mandatory inspections of CFM56-5 thrust reversers; on-wing repair of eroded fan case seals for a range of engine types; a cabin maintenance process based on a mobile app to optimise inspection, ordering parts, follow-up and reporting; and a service cart, called Moonraker, specifically for narrow-body aircraft nose wheel changes that has cut the time taken for that operation by 60%.



# Eye in the Skies



## AWHERO

The AWHERO is a leading-edge Rotary Unmanned Aerial Vehicle (RUAV), designed for maximum reliability, maintainability and operational flexibility. Designed for operation in the harshest environments, on land and at sea; the dual-use AWHERO features a modular payload configuration, ensuring capability across the medium-range civil and military mission spectrum, including: ISR/ISTAR, border surveillance, vessel detection and monitoring, migration monitoring, piracy and smuggling, mapping and environmental monitoring.

Inspired by the vision, curiosity and creativity of the great master inventor - Leonardo is designing the technology of tomorrow.

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*Africa's largest aerospace and defence show, AAD, took place at Waterkloof air force base in Pretoria in September. With support from South Africa's President and Minister of Defence, the South African industry heard encouraging news for the future. Alan Peaford, Ella Nethersole and photographer Ian Billingham were there to capture the flavour of the biennial event.*

# A great AADvert for SA aerospace



**S**outh African President, Cyril Ramaphosa, stressed the importance of the defence industry as he formally opened the 10th Africa Aerospace and Defence show at Waterkloof, Pretoria.

The industry's role in areas of national security was key to the economic future of South Africa, the president said.

"Improved security attracts investment, encourages growth and promotes development," Ramaphosa said. He also saw an important role for the South African National Defence Force (SANDF) in the military intervention capability across the whole continent under the direct control of the African Union.

He was backed at the opening by South Africa's defence minister Nosiviwe Mapisa-Nqakula who said that "by unlocking Africa's aerospace and defence potential we contribute to stability and growth."

She said AAD gave South Africa the opportunity to show what was on offer. Meanwhile Ramaphosa saw a safer and secure future developing through partnerships.

"SANDF ought to involve itself, with African partners, in peace missions to improve security in strife-torn regions. These intervention

**President Cyril Ramaphosa with defence minister Nosiviwe Mapisa-Nqakula at the opening.**







One 'visitor' to the show had a bird's eye view. Airbus' Pleiades satellite passed over the show while in its orbit 500 kilometres above Earth and demonstrated the clarity of its imagery with this snap of the show ground.

capabilities can reduce the risk of major interstate conflict and civil war," he said.

Ramaphosa responded to critics of the defence cuts and reiterated the financial challenges facing the country. "The economy is under pressure," he said, adding that the means available in the budgets are finite. But, while he recognised that SANDF was adapting to this economic reality, he stressed again the importance of the sector:

"It is a national asset that has value for many departments and agencies of government," he said. "It innovates products for the greater economy, such as systems that improve the safety of railway lines or improve the efficiency of shark nets.

"Some of our aircraft-related businesses are expanding in a highly competitive environment as suppliers to the biggest players in the global aircraft industry," he said.

Government intends to support the industry to become export-driven on the back of international investment, by having a policy stance favouring international joint ventures with local industry, he added. "Many nations, from different parts of the world, have expressed interest in becoming involved in joint ventures with our industry." ■

## Visits reboot UK-Africa relations

**Britain's High Commissioner, Nigel Casey, believes that UK Prime Minister Theresa May's recent visit to South Africa had revitalised UK and African relationships. He saw a new era of cooperation between his country and South Africa, in particular.**

**Speaking at AAD, in a packed UK Pavilion, Casey said the visit by President Ramaphosa to London and the reciprocal visit by May had "rebooted" the relationship and there was a new spirit of partnership.**

**The UK also stressed that it was open to bids from African countries to work on UK defence projects. "We have a website, [www.contracts.mod.uk](http://www.contracts.mod.uk), where you can find the information. There are already African suppliers that have been successful," he said.**



Nigel Casey: new spirit of partnership.



## DOCTOR'S DIAGNOSIS FOR HIS VERTICAL BUSINESS JET

Helicopter transfers to game reserves and city centres could be a thing of the past if a South African surgeon gets his way.

Dr Reza Mia is an aviation enthusiast and, when not at his medical practice, has been focusing his attention on the development of a new type of aircraft – the vertical business jet (VBJ)

The Pegasus VBJ is being designed to have vertical lift that will allow it to land on a standard 15metre diameter helicopter landing pad found on city rooftops, on yachts, in game reserves, and even at city centre intersections for emergency medical service roles.

"It will cost less to operate than a helicopter and will be simpler," said Mia. "Because of its light weight, it could be operated by a single pilot and it will be within the capability, after some differences in training, of being flown by someone with a private pilot's licence."

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Mia has funded the initial feasibility studies and detailed design, which has now been independently validated. "It's difficult to get government funding. They want to see a prototype. That's fine if you are designing a radio or something, but with aviation, by the time you build a prototype you have done pretty much all your work," Mia said.

"We are working at my pace. We have done the detailed design on the lifting fans and are working on the thrust fans. We decided that a tilting fan brings compromise, whereas a lifting fan gives us static flow



Dr Reza Mia and his visionary Pegasus VBJ.

and the thrust fans give us fast forward flight."

There are four fans in the wings and two in each nacelle, counter-rotating.

Pegasus Universal Aerospace has become a public company. It has a patent approved in South Africa and a patent pending in the US and Europe. Its share offer is on the market until November 4 and it is also sourcing crowd funding.

"We need more engineers now," said Mia. "We need \$50million. If we raise enough, we will have a prototype in three years and then testing for two years afterwards. We will get South African certification but will need Federal Aviation Administration approvals too."



## AURECON BRINGING ITS AFRICAN IDEAS TO LIFE

Aurecon was at AAD for the first time to highlight its engineering capabilities and products. "We want to become a true African business," explained managing director, Africa, Ferdi Nell.

The engineering and infrastructure advisory company has been operating since 2009 and has hubs in Australia/New Zealand, Asia, the Middle East, and Africa. It has worked on programmes including the Lesotho Highlands Water Project, Gautrain Rapid Rail Link, and the development of Johannesburg Airport.

"We have co-created clever, innovative solutions to some of the world's most complex challenges," said Nell.

The company has recently announced plans to expand advisory services in the South African defence market, following increased demand for optimisation and management of assets.

"We have been collaborating with market leaders in South Africa and Australia," said Nell. "We have a long heritage of designing and executing many defence infrastructure projects, including air force base runways, aircraft hangars, navy bases and ports."

It is currently working with the department of defence for the rehabilitation of the housing estates.

"We have worked here at Waterkloof Air Force Base upgrading the engineering services, including the hangars, as well as sinkhole repairs," said Nell. "We are also working at a new airport in Rwanda called Bugesera International Airport, as well as airports in Namibia."



Ferdi Nell: Innovative solutions to some of the world's most complex challenges.

Nell said the company especially likes to help the youth in South Africa.

"South Africa is now in a deep economic recession so our challenge is to find new work and, importantly, to make sure we transform our business into a true African business," said Nell. "We also believe in the investment of the youth of this country."

The company currently has 80 students at university enjoying one of its bursaries.

Nell said: "We try and entice the students with exciting new technology to stay with us, as well as entice our clients with new ideas and new ways of thinking, hence our slogan: 'bringing ideas to life'."

## Dassault flagship makes debut

Dassault's flagship Falcon 8X made its debut at this year's AAD as the French manufacturer outlined the growing importance of Africa to its global plans. The 6,450nm/11,945km trijet took centre stage at the show's static display.

"There is a change in Africa," said Carlos Brana, senior vice president of Dassault's civil aviation business. "There are growing businesses that are going beyond Africa to across the world. Though challenging, the African market remains dynamic for both new and second-hand Falcon jets, whose robustness, agility and efficiency are highly valued in the region."

Brana said there was a real business case for introducing the 8X to the African market. "The aircraft has earned great praise from operators around the world for its ultra-silent cabin – the quietest in business aviation – and its unmatched flying and travelling comfort. The big jet provides customers with increased range and cabin volume compared to the Falcon 7X, from which it was derived, allowing it to fly from Cape Town to London or from Lagos to Atlanta nonstop," he said.

Dassault has also increased its support in Africa with Dassault Falcon Service opening a satellite service station in Lome, Togo as part of a steady expansion of the regional product support network.



Maximilian Shaulis, business development manager. CADG with the new Helix platform.



## Helix – the manned ISR platform

CADG chose AAD to launch its new manned intelligence, surveillance, and reconnaissance (ISR) platform – Helix.

“Helix consists of an aircraft and ground control station to deliver the complete ISR solution,” said Maximilian Shaulis, business development manager.

The platform utilises an ES-15 single-engine aircraft, which is equipped with Hensoldt’s Argos II camera, along with two additional hard points for payload integration.

“Payloads are entirely customisable with the clients choosing their preferred options,” explained Shaulis. “The payload outputs are all transmitted via

data link to a ground control station, where the intelligence is viewed in real time.

“The components of the ground control station are ruggedized, allowing high mobility and rapid deployment for ISR missions.”

CADG developed the Helix ISR platform in collaboration with its partners, ECARYS and S-Plane.

“Helix offers a solution seeking to simplify usage and maximise capability as reflected in the range of service provisions available. It is cost-effective, low noise, and an environmentally friendly air-to-ground platform,” added Shaulis. “It can be tailored to any level of ISR support and our team is ready to assist all mission requirements.”

## AIR BP FUELLING AFRICA’S GROWTH

Air BP was at AAD because it believes Africa is a key market.

“We are here to share how our technical services offerings and low carbon solutions can support aviation growth in Africa,” explained Anthony Leon, general manager, southern Africa. “This includes a range of technical services for airports including the design, build and operation of fuelling facilities to help customers protect their operations and manage risk.

He added: “It is estimated that aviation in Africa will grow on average by 5% per year over the next 20 years and that passenger traffic will grow by around 3.8% annually up to 2032. Already we are seeing the emergence of low-cost carriers across the region such as Mango and Kulula – both successful business models in South Africa. We are also seeing a growth in the middle class across the African continent as political stability becomes apparent. These aspects are driving Africa in terms of aviation.”

The company is also the first aviation fuel supplier to achieve carbon neutrality for its into-plane fuelling service across 250 international networks.

It is currently working on a big project in Maputo, Mozambique.

“Air BP has the technical services mandate to design and build Maputo International Airport, which involves a new fuel system and into-plane operations



Justin Walker, technical director, and Anthony Leon, general manager, southern Africa, were at AAD demonstrating the company’s technical services offerings and low carbon solutions.

– it will be a total green field operation. Work should start before the end of this year,” said Leon.

In South Africa, the company is working on projects at both OR Tambo International Airport and Cape Town International Airport.

The company is also developing bespoke training and inspection services for Vivo Energy in Ghana, Ivory Coast, Senegal, Morocco, Kenya, Uganda, Cape Verde and Mauritius.

“We hold workshops for locals with their site managers as well as training in London. This also improves the capabilities of the local workforce in being able to manage risk,” added Justin Walker, technical director.

Also being rolled out across Africa this year is the company’s airfield automation technology, which is designed to enhance safety, reliability and compliance in airport fuelling operations.

## AHRLAC lining up for delivery of Mwari

South Africa’s AHRLAC programme hit a milestone during the AAD show when the first two production aircraft of the militarised Mwari aircraft joined the assembly line at the Paramount facility at Wonderboom Airport.

The two test aircraft – one a production demonstrator and the other a prototype – also flew together to participate in the nearby air show.

The Mwari aircraft are due to be delivered to the “northern hemisphere” launch customer at the end of this year.

The plant is using Aerospace 4.0 technologies on the programme, including what is possibly the world’s first 3D printed titanium components for the cockpit.

The next two aircraft – MSN 3 and 4 – have parts under construction. When assembled, they will be used for pressurisation testing.

The multi-role aircraft has recently undertaken a series of counter insurgency, patrol and close air support missions to assess its suitability for its primary intended roles.

The AHRLAC is fitted with 26 hardpoints around the airframe that can be used for a whole raft of equipment, ranging from sensors to weapons.

Partner Martin Baker has also designed ejector seats for the pressurised aircraft.

## UAV set for take-off

Cape Town-based Tellumat has been involved in the development of data link since the 1980s. But, at AAD, the company was showcasing a new unmanned air vehicle (UAV), the Astus.

“We have been building subsystems for some time but, in 2007, we built a prototype of our own unmanned air system and began integrating our systems. In 2016 it made its first flight; in 2017 we finalised the design and, this year, we have brought it to AAD and are starting the production line,” said Tellumat’s Willem Malan.

It is a medium-size, (90kg) tactical-surveillance UAV system with a range of 200km. It is able to undertake real-time surveillance data collection and carry out roles such as border and coastal security, anti-poaching, environmental protection and peacekeeping.

“The real selling point is cost,” said Malan. “It is built in South Africa with costs in Rand and so is very cost-effective when it comes to export markets.”

## Top brass eye up Safat trainer

A trainer aircraft designed and built in Africa was generating interest among visiting African military delegations.

The Commander of the Air Force of Zimbabwe, Air Marshal Elson Moyo, took a close look at the Sudanese Safat 03 trainer and climbed inside the aircraft to see it in more detail.

“We are pleased to see African air forces looking at the aircraft,” said Ali Osman Mahmoud from the Military Industry Corporation of Sudan, marketing the Safat aircraft at the show.

Mark Steele, key account manager at SAA, with the airline's latest business class seat for the Airbus A330-300.



## SAA SEATS ARE JUST WHAT THE DOCTOR ORDERED...

South African Airlines (SAA) was showing off its latest business class seat for the Airbus A330-300 at AAD.

"We currently have five A330-300s upgraded. These include the London flights, as well as Johannesburg to Accra, Accra to Washington and Sao Paulo," said Mark Steele, key account manager. "We are going to retrofit more aircraft in due course."

The business class features include a lie-flat-bed measuring close to two metres, upholstered personal stowage area, and a 15-inch monitor.

While business class seats are being added, SAA is also proving seats can be removed to make way for medical emergencies.

"SAA provides a service level for passengers with medical issues – this is special to us and can be implemented on all our aircraft types," said SAA nurse, Andiswa Bombil.

"Let's say, for example, there is a passenger with a broken back who needs transferring either to another city or country; we can remove six seats to allow a stretcher to sit comfortably and safely on board the aircraft."

Bombil added that the service is 'much cheaper' than an air ambulance, which makes it a more popular option, although the passenger needs to provide the medical attendant if needed.

## THE 'SPIDER' THAT CAN HELP AFRICA

Spidertracks has come a long way since it started life 11 years ago in New Zealand.

"In the last 24 months alone, we have tripled our development team, so we have around 17 software engineers," said Pieter Cronje, head of sales and marketing operations across Africa. "We are now represented on every continent, including Africa, where we have an office in Cape Town."

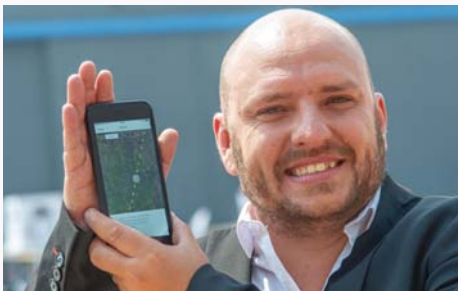
The Spidertracks idea developed after a New Zealander crashed his helicopter and his body was not found for two weeks.

"Our first product was a little aluminium block that had a GPS receiver and iridium – we are lucky to be an iridium platinum partner – transceiver integrated inside. This is basically what the Spider products are, but each one has been more advanced," said Cronje.

"We offer technology that not only tracks the aircraft, but also shows when there are emergencies, tracks take-off and landings, and covers various types of altitudes events. You can follow the aircraft wherever it is in the world in real time.

"You can see each track, and in two minute intervals we will send data out which will get displayed either on the web platform, on the Spidertracks app, or android app."

The company now has 7.5 million tracking hours all over the world.



Pieter Cronje: "You can follow the aircraft wherever it is in the world in real time."



Andy Winns: time to upgrade.

## Hercules facelift gives fresh lift to Africa

The iconic C-130 is a familiar sight in Africa with some 19 nations using the Lockheed Martin workhorse for a variety of roles, but president of Lockheed Martin's Africa and Latin America business, vice-admiral Andy Winns, believes the time for fleet renewal is now.

"The C-130 programme has been in continuous production for more than 70 years, and is a reliable, reputable and proven platform," Winns said. "But the aircraft has changed over the years, it has been improved and operating costs have fallen."

Data being shared by Lockheed at the show from evaluation of the C130 in service with the US Air Force saw the latest C-130J Super Hercules showing a 50% reduction in costs over the previous -H models.

"In Africa we are seeing some aircraft around 50 years old. There is no doubt that they value the concept of the Super Hercules and there is time to upgrade and hope the customers will make an informed decision based on facts," he said.

Winns points to three of the regular 17 mission capabilities of the Hercules that is looking attractive to

African air forces. "The first is as a tactical airlift," he said. "Carrying troops and peacekeeping missions as well as medical evacuation. Then we have the KC-130J for aerial refuelling and thirdly for maritime patrol."

South Africa will be looking closely at that third option with its international responsibility for the entire South Atlantic area, as far as Antarctica and halfway to Brazil in the west and Australia in the East. For now, it has effectively a zero-capability utilising a Dakota C-47TP which can literally just cover the coastal area.

At the show a C-130J-30, a stretched variant with two additional pallet spaces was on display, alongside an LC-130H fitted with skis for operation in the polar regions.

"When we say we are going to do something then we do it, and we stand behind our products," Winns said. "We have a product that meets so many of the needs. The world is not getting any safer and the time is right now for nations to take a look at their security needs."





SAA nurse, Andiswa Bombil, highlights the carrier's medical equipment.

## LEONARDO IS DRAWN TO PARAMOUNT

Leonardo and the Paramount Group are to evaluate the joint development of a weaponized configuration of the M-345 jet trainer for the African market and will continue discussions over the future of the SF-260 programme and its logistic support services.

The two companies signed a letter of intent (LoI) at the AAD show in Pretoria.

Lucio Valerio Cioffi, Leonardo's aircraft division managing director, said: "We believe the African market shows great potential for the M-345 programme. We think that a collaboration with a high-level partner, such as Paramount, is strategic in developing a new M-345 operational configuration for the African market.

"The M-345 is a basic/advanced trainer with multirole capabilities and costs comparable to a turboprop aircraft. These characteristics and more make it perfectly suited for the African market."

Ralph Mills, Paramount Advanced Technologies CEO, said: "We have launched and demonstrated our smart weapons integration on fast-jet trainers (SWIFT) mission system alongside the African debut of Leonardo's M-345 jet trainer. SWIFT is focused on current threats and current customer requirements. It offers low acquisition and operation costs and is suitable for non-conventional or asymmetric warfare.

"It addresses the customers' growing need for multi-role configuration to adapt to different mission roles without major re-configuration and extended time delay."



The M-345 jet trainer.



Tökkie Botes by an AS-350BA owned by West Dunnes Aviation, which was lent to him for the show.

## Botes leads rhino protection challenge

Making a difference to the world is all pilot Tökkie Botes, founder of Flying For Freedom South Africa, wants to do.

Five years ago, he witnessed the limited resources used by teams trying to prevent poaching at Kruger National Park. He knew then he wanted to help.

"South Africa has more than 75% of the world's rhino and they are dying brutal deaths at the hands of poachers every day. If we don't act now, they'll be gone from the wild within 10 years," he said.

So, using his own time and finances, Botes offered to help using his Bell 206 helicopter.

"The police, forensics team and I came up with a 50-hour trial test that was over a period of two weeks. After that they asked for more help, so I set up Flying For Freedom," he said.

The company helps fly vets, forensic personnel and dogs to snared animals, as well as assisting with the anti-poaching operation.

Botes' fuel company, Skeerpoort Verspreiders (SV), funds Flying For Freedom and fuels the whole operation at reduced cost. SV is also an agent Puma.

To date, Botes has helped save 150 rhinos, but, sadly, seen at least 1,600 slaughtered.

## Spartan battles for African market share

With Kenya, Morocco, Chad and Zambia already among customers of Leonardo's C27J, the Italian manufacturer came to AAD keen to extend its footprint across the African continent.

Umberto Rossi, SVP marketing and sales at Leonardo Aircraft, said: "Air forces need an aircraft with the features of the C-27J Spartan. We believe that our product is the best solution for African countries. Its capability to operate from the most rudimentary airstrips, in extreme environmental conditions, cannot be matched by any other twin-engine airlifter."

An upgrade programme due to enter service next year has been set with avionics, communication and winglets to offer an enhanced product, bringing compliance with new civil aviation regulations and military requirements.

## Seeker finds new market

US manufacturer CSI Aviation has teamed up with Ghana's Ecoalpha Services to bring the Seeker Aircraft to Africa.

The Accra-based dealer will be marketing the purpose-built light observation aircraft specifically designed for ISR missions, the companies announced at the show.

This partnership marks a new expansion effort into Africa and the Middle East expanding the market offering for not only ISR missions but also for powerline and pipeline patrol in the energy rich African continent.

The aircraft took part in flying displays and demonstrations to show its excellent all-round vision, and according to former F-18 pilot and vice president of sales, Bill Vanzwoll, the Seeker is the most cost-effective surveillance aircraft on the market today.

## Honeywell hat-trick

Honeywell announced at the show that its avionics protection plan had been selected by leading Africa-based helicopter operators Heliconia of Morocco, Caverton of Nigeria, and Titan Helicopters of South Africa.

These fleet operators will benefit from maintenance coverage on their Honeywell helicopter avionics, with reduced exposure to unexpected maintenance costs, leading to better control of annual maintenance budgets, said the company.

## Russians eye up new markets

The Russian defence industry sees great opportunity in Africa, according to Victor Kladvov, director for international cooperation and regional policy at Rostec, the umbrella organisation for Russia's military businesses.

Speaking at AAD, he said: "In recent years, the volume of the arms market in African countries has demonstrated a steady growth, which creates reasons for expanding our presence in the region and bringing our military products to new markets."

Rostec was demonstrating more than 280 models of weaponry and military equipment at the event.

## Andreas Christodoulides

Marcelle Nethersole *speaks to the chairman of Zela Aviation.*

1

■ Can you tell me about Zela Aviation and the services it provides?

My passion for aviation led me to founding Zela Aviation in 2006.

I set up an office in Limassol, Cyprus and gradually expanded, opening branch offices in London and Manchester in the UK.

Zela Aviation's core business is providing aircraft, crew, maintenance and insurance (ACMI – wet lease) solutions to airlines and full charter capacity options to tour operators, private individuals and corporate groups.

A year ago, the company expanded in the area of aircraft remarketing and dry leasing. I am proud to say that, through our hard work, we have attracted the attention of major airlines, tour operators and leasing companies and have successfully entered into fruitful cooperation with a number of them.

2

■ Who are your customers?

Our customers are primarily airlines from across the world and European tour operators. Airline customers include a number of well-known global carriers as well as small or newly established operators, who seek our expertise in aircraft leasing and remarketing.

Tour operators engage with us in fixing charters from western Europe to mostly Mediterranean destinations during the summer months.

3

■ What aircraft can you provide?

We are able to provide assistance in locating suitable aircraft of any type.

The most popular aircraft category in our business remains the 180Y-189Y segment, –the Airbus A320 and Boeing 737-800. Both aircraft are extremely popular with tour operators and airlines alike, as they provide the optimum balance of capacity and efficiency.

However, larger aircraft, such as B767-300 or Airbus A330, which are more suitable for the needs of Hajj operators, are also part of our portfolio.

4

■ Can you tell me about the services you provide in north Africa and why it is an important region?

Zela Aviation has always had a strong interest in the African continent, primarily due to the vast population, the potential market growth and the quality of the tourism product.

Ever since the first year of operations, we have been chartering flights to and from African airports or leasing aircraft to African airlines. Our strongest African market has historically been Egypt, where we have developed partnerships with a number of airlines and tour operators.

Zela Aviation was successful in placing aircraft on long-term ACMI projects in other African countries as well.

5

■ Will you be expanding within Africa?

Africa presents a great opportunity for all air charter brokerage firms, since the market has not yet reached its maturity point.

We continue to monitor the developments in the continent and are eager to enhance our presence by growing relationships with airline operators, whether they be a supplier or a customer.

Zela Aviation continues to keep a close eye on the latest developments in the region in relation to the aircraft age restriction directives in order to be able to address the needs of our African clients efficiently and effectively at any given time.

6

■ What challenges does the company face?

Challenges are what keep us going, striving to find solutions for our customers by offering new and dynamic solutions.

Zela Aviation prides itself of offering bespoke services to each individual client. We are on a constant mission of enlarging our pool of suppliers in order to be able to address demand efficiently and effectively.

Over the years, we have managed, through our agile working practises, to emerge stronger from the European economic crisis, which caused the significant downturn in aviation a few years ago.

7

■ As chairman, what does a typical day involve for you?

In this business no one day is the same.

In order to keep ahead of the competition, I devote much of my time in travelling and meeting incumbent and potential clients and suppliers. This job is all about forming strong relationships with the people who you work with and who keep your business moving forward.

My aim is to provide top-level customer service and achieve high levels of customer satisfaction. I take a hands-on approach to business and I'm very much involved in the majority of our projects.





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