



# AFRICAN AEROSPACE

THE MAGAZINE FOR AEROSPACE PROFESSIONALS IN AFRICA

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PARAMOUNT TO  
NEW HEIGHTS**

« ICHIKOWITZ POUSSE PARAMOUNT  
VERS DE NOUVEAUX SOMMETS »

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## Why it is good that the talking shops are telling our story

Conferences and exhibitions are an important part of our lives and, these days, it feels more like a constant activity rather than the old seasonal activity.

Since the last issue of *African Aerospace*, I have been to key events in three continents, discussing business aviation in Europe, global aerospace issues and airport technologies in the Middle East, and, of course, the Aviation Africa Summit and Exhibition in Cairo.

It is fascinating how much more Africa is taken seriously these days. It feels as if there is a momentum that is waking, not so much the African industry, but those outside who are seeing a different aspect of the aviation and defence business on the African continent than, perhaps, they had previously.

There is less of the patronising “oh it’s all bush flying isn’t it?” type of question, and even fewer queries about safety. It is much more about how fast the change is happening, and how a greater level of professionalism is being reflected outside from the African companies.

And that is the true value of these events, to demonstrate the attitudinal and cultural change that has been under way.

The African aerospace industry is reducing its reliance on external support and is now far better equipped to work toward joint ventures. At the Aviation Africa Summit, a superb case study from Morocco showed how a joint venture between RAM and Air France-KLM was working, despite understandable teething difficulties and cultural differences.



At the Global Aerospace Summit, it was good to meet Ivor Ichikowitz, the chairman of South Africa’s Paramount group, who is our cover story in this issue. He is leading an export charge of the defence equipment manufactured at his Johannesburg company. He sees opportunity for increased intra-Africa trade.

The single African skies programme (SAATM) is another example of how African nations and businesses can benefit from eliminating protectionism and reducing regulatory barriers to enable trade within Africa – and an easier movement of people – for the greater good. We echo the words of

IATA’s Adefunke Adewola, who used the Cairo event to call on governments to begin actually implementing the SAATM agreement. Actions always speak louder than words.

Sadly, there are some who don’t see the common good as being an advantage.

On the sidelines of the conferences we hear about airlines and operators who never planned for instructors or technicians and have grounded aircraft; we hear about others who have a nod from government to by-pass usual civil aviation rules. But these examples are fewer.

As we look forward to the Farnborough International Airshow in the UK later this month, to AAD in Pretoria, to the AfBAA events and, indeed, to the next Aviation Africa Summit in Kigali, we have to remember that this is our pathway to change. As an old favourite advertising slogan once said: “It’s good to talk.”

Alan Peaford, Editor-in-Chief

**COVER: Ivor Ichikowitz, driving defence in South Africa. PICTURE: PARAMOUNT GROUP**

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## SA squadron's double celebration

The South African Air Force's 28 Squadron celebrated a double anniversary in June – the 75th anniversary of the squadron's formation during World War II and 55 years of operating the Lockheed Martin Hercules C-130BZ.

In his address to some 400 guests at AFB Waterkloof in Pretoria, commanding officer, Colonel Gerrie Engelbrecht, read the entry from the 1943 War Diary: "In humble surroundings at SAAF Base Depot Almaza, Cairo, Middle East, 28 Squadron is born."

After the war, it contributed significantly to many operations, including the Berlin Airlift. Since January 1963, it acquired new Hercules

aircraft – the very ones that treated squadron veterans present with an impressive flypast. One of these was flown by Major Caro Duvan, the squadron's first ever female commander.

Listing numerous highlights, Engelbrecht said: "Through all of this we will still work to bring peace to Africa, and the people of Africa – from South Africa to Libya, from the Ivory Coast to Tanzania."



### Air Senegal SA finally in the air

Air Sénégal SA operated its first commercial flight on May 14, on the domestic route Dakar-Ziguinchor, after obtaining its Air Operator Certificate (AOP). The next focus will be on the sub-region before going to intercontinental routes when the airline takes delivery of its two Airbus A330neo in 2019.

### Botswana eyes the Eagle

South Korea's Korea Aerospace Industries (KAI) has mounted a renewed effort to sell its FA-50 Golden Eagle lightweight fighter to the Botswana Defence Force (BDF).

The BDF is seeking a new fighter aircraft to replace its legacy Canadair CF-5 Freedom Fighters.

### SAA retains 4-star ranking

South African Airways (SAA) has maintained a 4-star Skytrax ranking in both

business and economy class, for a 16th consecutive year.

"Awards demonstrate that SAA is standing its ground as one of the leading airlines in the world," said SAA spokesperson Tlali Tlali.

"We were also fortunate to have had our new Airbus A330-300 audited this year among our aircraft fleet. The A330-300s are state-of-the-art aircraft and the latest acquisition in our fleet."

### Air Serv begins ops in Sudan

Air Serv deployed an aircraft on June 7 to Khartoum, Sudan to support efforts assisting displaced people who have been forced from their homes due to drought and conflict. The Grand Caravan will be based along with a crew of two pilots, an engineer, and a base manager. Providing transport for relief agencies working in the region, the Khartoum operation is a short-term programme with a likelihood of extension.



### Al Masry takes on Egypt civil aviation

Following a restructuring of the Egyptian government's cabinet, Air Marshal Younes Al Masry has been appointed as the country's civil aviation minister.

He succeeds Sherif Fathy, a former EgyptAir group chairman and an IATA executive who had also worked with US airlines as part of a civil aviation career development.

Al Masry is the former Air Chief of staff and at the time of his appointment by President Abdel Fatah El Sisi, was the Commander-in-Chief of the Egyptian Air Force.

### Hadid adds new stations

International flight services and support company, Hadid, has added two new stations in the Republic of Mali and the Republic of Senegal.

The company said: "This additional representation is a further advancement of our global reach, extending our presence as an international first choice for aviation services. Expanding our network enables us to better monitor our services and offer consistently higher standards at competitive prices, even in difficult locations."

### Air BP expands in Africa

Air BP has collaborated with Vivo Energy to grow its network in Africa, adding six new locations: Sir Seewoosagur Ramgoolam International Airport, Abidjan-Felix-Houphouet-Boigny International Airport, Nelson Mandela International, Sal International Airport, Agadir-

Al Massira Airport, and Marrakech-Menera Airport.

From now on, Air BP general and commercial aviation customers can refuel at the new locations in Ivory Coast, Morocco, Cape Verde and Mauritius. Customers will be able to use their Air BP Sterling Card to pay for fuel at all six of the airports, in addition to ordering and paying for fuel via the RocketRoute Marketplace platform.

### C-check breakthrough

Nigerian airline, Aero Contractors, and its stakeholders celebrated an MRO milestone for west and central Africa with the completion, in January, of a domestic C-check on a Boeing 737-500.

The work was carried out at Aero's MRO facility at Murtala Muhammed Airport, Lagos, following certification by the Nigerian Civil Aviation Authority last September. Aero's technical partner in this initiative is AJW Group.

## Air Tanzania receives Q-400

Air Tanzania has taken delivery of new Bombardier Q-400 aircraft from Bombardier Commercial Aircraft, Canada.

The 79-seater aircraft is the third to be bought by the Government of Tanzania since President John Magufuli took over power.

Air Tanzania is expected to take delivery of three more aircraft before the end of this year, including two Bombardier C300 and a Boeing 787-8 Dreamliner.

## Ethiopian increases 400 fleet

Ethiopian Airlines is to add 10 more Bombardier Q400 turboprops to its fleet.

The airline will begin receiving the new aircraft midway through next year. It has also taken options on a further five.

The deal is valued by Bombardier at \$332 million.

The Addis Ababa-based airline is the largest operator of the Q400 in Africa with 17 aircraft in operation and, before the new announcement, another two on order.

## Air Namibia appoints APG

Air Namibia has appointed APG Network as general sales and service agents in Ghana and Nigeria.

Juanita Klassen, the carrier's manager for GSA and offline markets, said: "We are happy to have established this relationship with APG Network. It is a key global player in the airline distribution environment, offering outsourced services such as passenger sales and marketing, and reservations. It makes Air Namibia better positioned to make its west Africa

## Côte d'Ivoire's hub hopes boosted by Airbus deal

Côte d'Ivoire's aerospace ambitions have been boosted by an MoU with European manufacturer Airbus. The agreement is to establish a framework of collaboration to support the development of the country's industry which has been identified as strategic for its economic development.

The MoU was signed by Amadou Koné, Côte d'Ivoire minister of transport, and Mikail Houari, president Airbus Africa Middle East in the presence of Côte d'Ivoire's Daniel Kablan Duncan, and Guillaume Faury, president Airbus Commercial Aircraft.

Speaking at the event, Duncan said the West African country wants to become an aerospace hub for the region.



## Makolo steps up as CEO

RwandAir has appointed Yvonne Manzi Makolo as its new chief executive. She had been deputy CEO and head of marketing since joining the airline last year from telecoms firm MTN Rwanda, where she was chief marketing officer.

She replaces Colonel Chance Ndagano, who had been acting CEO since John Mirengye left the airline a year ago.

The airline is in expansion mode and, since her arrival, has begun direct flights planned to Abuja and Cape Town, signed a bilateral deal to connect with Accra, and plans routes to China, New York, and Israel.



operation a success."

## Aviall to lead supply chain

Boeing subsidiary, Aviall, is to take a leadership role in supply chain management for the production of the advanced high-performance reconnaissance light aircraft (AHRLAC), developed by South Africa's Paramount Group.

Aviall will support supply

chain procurement and management for AHRLAC production, including the aircraft's militarised variants – Mwari (international) and Bronco II (US).

In addition, Boeing Global Services will provide software-based solutions that enable centralised command and control of flight operations and produce total lifecycle support that reduces sustainment costs.

## Air Madagascar selects Maureva

Air Madagascar will streamline operational activities by implementing the Alexis crew management and flight scheduling solution from Mauritian airline software and service solutions provider, Maureva.

Alexis will support Air Madagascar's scheduling activities and daily operations management by optimising aircraft, as well as crew allocation and utilisation.

"We're delighted to have been awarded this new project and we strongly believe Air Madagascar and its new subsidiary, Tsaradia, will gain significant value," said Romain Angella, head of business development at Maureva.

■ See more on Maureva's African success on Page 35.

## Stelia's new seat in Africa

Stelia Aerospace's new-generation business-class seat, OPAL, is set to enter into service in the first half of 2019 with an African carrier as a launch customer.

Fully customisable, OPAL is a forward-facing, full aisle-access staggered seat, offering a flat bed with an average length of 80ins in a fully optimised cabin configuration, and the flexibility of a minimum pitch of 40.5ins.

Up to four additional passenger seats can be installed over existing configurations.

## Demand surges for pre-owned aircraft

Bombardier Commercial Aircraft says it is seeing a surge in demand in Africa for pre-owned aircraft.

"As we seek to increase our market share on the continent, we have successfully placed a significant number of pre-owned regional aircraft with seven airlines from the region in the last three months," said Jean-Paul Boutibou, vice-president sales, Middle East and Africa. "Our market penetration in Africa is making headway. Our strategy further supports our aftermarket revenue stream, and means we are confident of new aircraft orders in the future."



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## Green light for Aero South Africa

Messe Frankfurt South Africa, in cooperation with Messe Friedrichshafen, will put on the first Aero South Africa, general aviation show, at the Woonderboom Airfield in Pretoria, South Africa from July 4 to 6, 2019. Konstantin von Vieregge, CEO of Messe Frankfurt South Africa, said: "The Aero South Africa perfectly rounds out our South African portfolio, as we already offer the largest automotive and boating trade shows in the country. With this new aviation trade show, will cover all three elements."

## Durban gears up for Air Expo

African Air Expo will take place at King Shaka International Airport in Durban between November 27-29, 2019. The event is aiming to attract a mix of General, Business and Commercial Aviation exhibitors and will accommodate more than 100 aircraft ranging in size from single and twin-engine models, turboprops, and executive jets through to commercial wide-body.

## Visa service for all

The Ethiopian Immigration and Nationality Affairs Main Department, in collaboration with Ethiopian Airlines, has launched an e-visa service for all international visitors to the country. It became effective in June.

## Algérie migrates

Air Algérie has migrated its reservation, inventory, ticketing, revenue management, loyalty, payment, departure control and digital capabilities to the Amadeus passenger service system. This change is part of a landmark 10-year transformation programme, initiated by Air Algérie in 2017.



## Engineering the future in Mauritius

The Air Mauritius Institute and the Airbus Foundation have joined forces to roll out a series of Airbus 'little engineer' workshops on the Indian Ocean island. Developed by Airbus, the 'little engineer' initiative aims at encouraging students, aged between 10 and 16, to understand and embrace technology, and ignite passion that could grow into an exciting career in the fields of science, technology, engineering and mathematics (STEM).

A two-day workshop took place at the end of May and saw some 50 students from across Mauritius introduced to the world of aviation.

"The Airbus little engineer programme helps to facilitate access to STEM skills, which are crucial in solving the complex problems of today," said Andrea Debbane, executive director of the Airbus Foundation.



## Keeping everyone on course...

The UK's international arm of its civil aviation authority, CAAI, has contributed to the International Civil Aviation Organization (ICAO) 'No country left behind' initiative by delivering an aerodrome certification course for 36 delegates from 14 African countries.

The Nairobi course attracted delegates from Angola, Botswana, Chad, Comoros, Ethiopia, Kenya, Madagascar, Namibia, Niger, Seychelles, South Africa, Tanzania, Zambia and Zimbabwe.

Kirsten Riensema, the air navigation commissioner and UK alternate representative to ICAO said: "It is forecast that, by 2036, Africa will see an extra 274 million passengers per year.

"It is, therefore, very important that we continue to support and create opportunities for development of aviation professionals in Africa, who can use their aviation skills to support this level of growth by creating and maintaining safer aviation regulatory frameworks."

## Entertaining move by Afrijet

Gabon-based carrier, Afrijet, has become the launch customer of Cabinstream, a new wireless in-flight entertainment (IFE) solution developed by New Zealand's Phitek.

The airline will introduce this new streaming system into its fleet of new ATR aircraft before the end of the year. It allows passengers to enhance their on-board experience by accessing a variety of multimedia content – such as newspapers, music, films, TV series and even downloadable travel guides – on their personal electronic devices.

Representing a simple IFE box solution that is easy to install, Cabinstream is an option on all new ATRs and is easily retrofittable on existing aircraft.

Marc Gaffajoli, Afrijet's CEO, said: "Being able to offer an even better on-board experience to our

passengers is a key reason for us in choosing this option. We are looking forward to providing great, innovative and easily accessible content. We are proud to show that Africa is a land of innovation."

## The road to Morocco... again

MEBAA Show Morocco will return in 2019, having been given full support by the country's government.

The third edition will take place at Marrakech Menara Airport from September 17-18.

Ali Alnaqbi, founding and executive chairman of the Middle East and North Africa Business Aviation Association (MEBAA) said:

"The feedback we received from both the government and our exhibitors on previous editions of the show has been fantastic. MEBAA is looking forward to bringing the show back for its third edition, as the business aviation industry continues to grow in Morocco."

## Madagascar airports turn 'green'

The Malagasy airports development project is well under way with the new terminal building at Antananarivo Ivato International Airport due to open early in 2020.

The major works include the renovation of runways and aircraft parking areas, as well as terminals at Nosy Be (where the runway resurfacing is complete) and the construction of a new passenger terminal at Ivato.

"Sustainable development is at the centre of the project, combining new 'green' technology and enhanced quality in terms of safety and service," explained Jacques Follain, deputy CEO of the ADP Group, which is overseeing the operation.

The project is a 'first' as it meets the Edge sustainable environmental goals of the IFC-World Bank and includes a new waste treatment plant and power from solar panels.

## Seeker finds a partner

Seeker Aircraft has announced that its Seeker purpose-built light observation aircraft, specifically designed and developed for intelligence, surveillance and reconnaissance (ISR) missions, will now be available for purchase from aircraft



## Rolling on to another milestone

Rolls-Royce was celebrating in June after the first member of the Trent family to enter service – the Trent 700 – completed 50 million flying hours.

This achievement occurred while around 380 Trent 700-powered Airbus A330 aircraft were in flight around the world.

Dominic Horwood, Rolls-Royce director, customers and services – civil aerospace,

said: "The Trent 700 is an iconic engine. As the first of the Trent engines it set an extraordinary precedent that helped redefine Rolls-Royce's role in the civil aerospace sector and we are thrilled to celebrate this milestone.

"As we prepare for the entry into service of its successor, the Trent 7000, this is also a great reminder of the strong foundations on which that engine has been built."

dealer Ecoalpha Services, based in Accra, Ghana.

"Ecoalpha is well-suited to represent Seeker in our efforts to expand marketing, sales and services into sub-Saharan Africa, Saudi Arabia, Kuwait, Bahrain, Qatar and the United Arab Emirates," said Ed Lundeen, president of Seeker Aircraft.

"Ecoalpha intends to have a mission-configured Seeker aircraft in its territory for demonstration

purposes and plans on establishing a services base for parts and support for fielded aircraft."

## Ivory Coast business terminal opens

The new business aviation terminal at the Ivory Coast's Félix Houphouët-Boigny International Airport in Abidjan opened in May.

Gilles Darriau, MD of Abidjan International Airport said: "By offering

an additional range of services at an airport serving Africa, the Middle East, Europe and the USA, and already certified by the Transportation Security Administration, the overall attractiveness of the country will be enhanced."

The FBO is managed by Jetex and features four lounges, three of which are open-plan with one specifically for private meetings.

## Ethiopian receives its 100th aircraft

Ethiopian Airlines took delivery of its 100th aircraft, a Boeing 787 Dreamliner, in June.

As part of Ethiopian's corporate social responsibility commitments, the new aircraft ferried medical equipment from the Seattle-based NGO, Direct Relief, to St Paul's Hospital in Addis Ababa.

The shipment included surgical tools and other medical supplies to be used for both teaching and patient care.

Ethiopian Airlines Group CEO, Tewolde GebreMariam, said: "It is an immense honour for all of us at Ethiopian to reach the milestone of 100 aircraft. This milestone is a continuation of our historical aviation leadership role in Africa and a testimony of the successful implementation of our fast, profitable and sustainable growth plan, Vision 2025.

## Istanbul and Cairo link

Pegasus Airlines has signed a codeshare agreement with Nile Air.

Through the codeshare partnership, Pegasus passengers have been able to purchase seats for the Nile Air flights between Istanbul Sabiha Gökçen Airport and Cairo.

## Safety success for Cabo

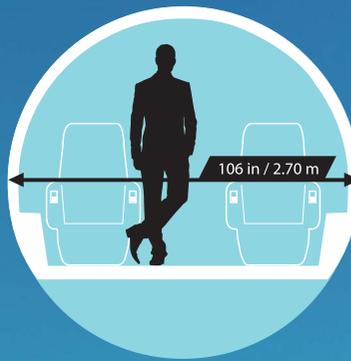
Cabo Verde Airlines has renewed its International Air Transport Association (IATA) certificate of operational safety audit (IOSA).

Currently, the Cape Verde-based airline holds the main international aviation certificates signed by the Federal Aviation Administration (FAA) and the European Aviation Safety Agency (EASA).

"This IOSA certificate is another milestone for our airline, which continues to maintain international aviation standards," said CEO, Mario Chaves. "This certification demonstrates the success of our operational team and of our pilots, who do everything possible to take the Cabo Verde Airlines to the highest level."



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<b>October</b>	Civil Aviation Management (Classroom, 5 Days)	01-05
	Introduction to Flight Operations Management (Classroom, 5 Days)	01-05
	International Negotiation Skills (Classroom, 5 Days)	15-19
	Aircraft Acquisition and Financing (Classroom, 4 Days)	22-25
<b>November</b>	Training Needs Assessment (Classroom, 3 Days)	05-07
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<b>December</b>	Quality Management Systems for Airlines (Classroom, 4 Days)	03-06
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*In Namibia, there aren't many people. This means, as **Victoria Moores** finds out, that Air Namibia acting managing director advocate, Mandi Samson, recognises the role played by every single member of her team in the airline's success.*

# PEOPLE POWER

**N**amibia is home to just 2.5 million people, making it the second least-populated sovereign country on the planet (only Mongolia has fewer people per square mile).

Even the name 'Namib' translates as 'vast place', creating an essential role for Windhoek-based Air Namibia.

Advocate Mandi Samson joined the government-owned airline as acting managing director in August 2015. She is now rolling out the second year of Air Namibia's five-year plan.

"It was drafted with the assistance of our very capable in-house team," Samson said. "I think it's very important for African airlines to realise the value that they have in-house and not just bring in transplanted talent that has no context and gives you a cut-and-paste plan that you're going to have to either fix or rehash at the end of the day."

This firm focus on people was one of Samson's highest priorities when she was appointed. "That was the board's first item. It was non-negotiable. We said we're going to endorse strength and talent from within. We put that talent first and give it due recognition and appreciation. We empower the team; they've been through a lot over the years."

Continued  
on Page 18

That was the board's first item. It was non-negotiable. We said we're going to endorse strength and talent from within.

MANDI SAMSON

CONTINUED FROM PAGE 17

The five-year plan tackles three core areas: optimising operations, putting the airline on a sustainable financial footing, and maintaining Air Namibia's high level of safety compliance.

While still drawing on its own talent, Air Namibia brought in external experts to help with the network review. "We are looking to optimise use of our fleet and cabin crew. You are supposed to use aircraft for 12 hours, or more, each day. If you're only using them for five or six hours, it makes no sense," Samson said.

Air Namibia operates full-service flights to six destinations in Namibia, a further six regional points and two long-haul routes to Frankfurt, Germany and New York, USA.

In March 2018, it was due to expand its African footprint, adding Airbus A319 flights from Windhoek, via Lagos in Nigeria, to Accra in Gabon. "This much-needed service will reduce travel times between Namibia and west Africa by more than 60%," Samson said, adding that the new flights would be performed by existing fleet and crews, improving utilisation.



The route will operate four times weekly, using fifth-freedom traffic rights granted by Ghana and Nigeria.

Samson is an African air transport liberalisation expert. After training in aviation law, she worked for the Namibian attorney general and was on the committee that negotiated Namibia's air service agreements. She helped the Southern African Development Community (SADC) draft its competition rules, paving the way for a common air transport market among the local regions and, more recently, she was brought in by the African Union (AU) to advise on intra-African air transport liberalisation.

She was also general manager at Namibia Airports Company (NAC), but her distinguished career is not limited to aviation. She has chaired the board of the government's pension fund, worked on law reform and been involved in

mining, maritime boundaries and fishing rights. She has two masters' degrees and is completing an air transport doctorate with Leiden University.

Namibia is no stranger to strong female leaders. It is one of the few African states to have a female prime minister – Saara Kuugongelwa-Amadhila – who has been in office since 2015. Samson said the Government has been "an amazingly supportive and dedicated shareholder", seeing the airline through its ups and downs.

"They have been very understanding, dealing with an asset that has been in distress," she said.

This high-level support is hardly surprising as Air Namibia plays a vital role, supporting tourism and helping make travel more accessible for locals. "Before, it was beyond affordable," Samson said. Now there is a trend towards lower fares.

Air Namibia's high-level mission is to be "a safe, reliable and profitable airline – helping tourism to thrive and encouraging business investment." This means part of the airline's role is to highlight tourist attractions, creating a "net economic gain" for the country.

Air Namibia has old roots, which were planted in 1946 and began to take hold from its launch in 1949. "It's obviously gone through various metamorphoses," Samson said, including a key transition when the country gained independence.



A major area of the airline's evolution has been in compliance. Once again, Samson lays the credit for this with the airline's hard-working people. "We've been in non-stop audit mode. You can sell as many tickets as you like but if you don't put safety first it's not a persuasive argument."

Air Namibia secured ICAO five-phase certification in March. The airline has also been IATA IOSA compliant since 2007 – the most recent renewal was in September 2017 – and it gained EASA third-country operator (TCO) acceptance in February 2016. "Not many African

carriers fly direct to Europe. We are very proud of that because it means we can fly to any country in Europe if we have the traffic rights."

In terms of business performance, Samson acknowledged that Air Namibia's financials have been challenged over the years, but work is under way to make the airline more sustainable. "Financially, we are in the same position as other African airlines," she said. "We do get government subsidies to serve as a buffer against our operating revenue shortfall."

After combing the airline's cost base for potential savings, without compromising on quality, Samson identified aircraft financing as an area for change.

"Restructuring our aircraft leases is a top priority that will immediately have an impact on the bottom line in terms of lease costs and foreign currency exposure. It will also strengthen our balance sheet," Samson said. "Where we are paying leases in foreign currency, there is potential for our local finance industry to come in and for Air Namibia to acquire the assets in a local context. That will take away millions and millions of dollars in terms of foreign exchange exposure."



Air Namibia operates a fleet of 10 aircraft, comprising two leased A330s, four A319s (two of these are owned) and four Embraer ERJ135s – these are coming to the end of their lease term. Samson said all these leases will be reviewed.

"Our outlook for 2018 is positive if we proceed with the restructuring of the leases. This will be a substantial change, along with the impact of the route network review," she said.

Belly cargo is another focus area. At the moment, it makes up 6-9% of Air Namibia's revenue, but Samson is confident that this can go higher. "We realised we needed a dedicated strategy for that, so we created a cargo sales position and added ground operations capability. Operations and sales have improved."

Likewise, there is scope to expand in aircraft maintenance. The airline currently maintains its Embraers in-house and Samson is looking to do work on the A319s and A330s too. "We would settle for line maintenance on the other fleets [beyond the Embraers], but at this point we don't have authorisation," she said.

Finally, partnerships play an important part in the airline's strategy. In 2017, Air Namibia added three new codeshare agreements with German carrier Condor, Ethiopian Airlines and Turkish Airlines. Others are under negotiation but, while Samson sees a value in partnerships, she is not looking to invest in or set up any airlines outside of Namibia. "At this point, we are very inward-looking. We need to look after ourselves first, especially in turbulent times. We want to grow the footprint of Air Namibia in Africa and acquire additional interline and other agreements."







Ethiopian Airlines is the continent's standout carrier, say the authors, with a balanced network and a government that is supportive but does not interfere.

# WHY AFRICA LOOKS

*For many years, Africa has been talked of as a continent of great potential in commercial aviation.*

*That potential has never really materialised.*

*As Alan Dron reports, the authors of a new book believe that, at last, things are about to change.*

**B**y most criteria, Africa should have a thriving commercial aviation sector. With a population of more than 1 billion, 54 nations, long distances to cover between points on the continent and a growing middle class, for many years commentators have predicted that the continent is about to 'take off' in aviation terms.

Yet it has not happened. Why?

In their new book, *Fly Africa*, Eric Kacou and Hassan El-Houry set out the problems that have for so long prevented the continent from taking its rightful place in the commercial aviation landscape. But the authors believe that – at last – Africa is on the verge of breaking the bonds that have shackled airlines there.

First, a few statistics: Africans make up 12% of the world's population, but only 3% of the world's airline passengers. The continent has (at the time when *Fly Africa* was written) 731 airports and 419 airlines, but very few successful ones.

Widespread poverty on the continent has, of course, been a major hindrance in aircraft becoming the everyday mode of transport that they are in North America, Europe, Asia-Pacific and, increasingly, the Middle East.

But Africa is becoming richer. The authors calculate that around 34% of Africa's 1.1 billion inhabitants can now be classified as middle-class.

In 1970, there were five million passengers in Africa. By 2015, that number had breached the 100 million barrier and is continuing to climb.

Kacou and El-Houry give four major reasons for African aviation not having grown more quickly:

- Poor connectivity;
- High ticket prices;
- A market dominated by non-African airlines; and
- Large variations in the quality of Africa's aviation infrastructure.

Those factors tend to reinforce each other. Let's take them one by one.

The problem of connectivity has long been a problem in Africa. Many countries still only allow foreign visitors to enter if they have acquired a visa before they arrive. As many African nations do not have embassies or consulates in every country on the continent, this often means that a passenger wanting to travel from country A to country B initially has to travel to country C, simply to get a visa from

country B's nearest diplomatic mission. This makes it considerably more difficult to fly where you want, when you want, in Africa.

A further connectivity problem is that African airports serve far fewer destinations than their counterparts in Asia-Pacific, North America or Europe. This has led to the longstanding and somewhat ridiculous situation of often having to connect between two African cities via distant European hubs.

With high ticket prices, there has been a tendency for people in Africa to see airlines as being 'for the rich' and for many governments to follow that line of thinking by milking them with heavy charges and taxes. It is not unusual, for example, note the authors, for departure taxes from African airports to reach \$100.

□□□□□

That pushes up the price of tickets and takes them out of the reach of many. Those people who can afford them typically pay much more flying within Africa than passengers travelling in other continents.

Kacou, co-founder and CEO of advisory and investment company Entrepreneurial Solutions Partners, and El-Houry, group CEO of Kuwait's National Aviation Services, calculate, for example, that "one dollar spent in economy class in Africa enables passengers to travel 6.04km. The same dollar spent in Europe propels passengers an average of 44.44km."

The problem of non-African airlines siphoning off traffic that African flag-carriers should be carrying has become noticeably worse over the past decade, as Emirates, Etihad, Qatar

RwandAir is named by the book's authors as one African airline that shows real potential.



# BOOKED TO SUCCEED

Airways and Turkish Airlines have increasingly pushed into Africa, deploying their rapidly growing fleets to funnel African passengers through their hubs and on to their final destinations. Indeed, Turkish is on record as saying that its ambition is to become Africa's largest carrier.

Few African carriers have the strength to compete with these giants. The exception, say the authors, is Ethiopian Airlines, whose management, together with the country's government, have shown "consistency, commitment and foresight" in promoting aviation in their country. Critically, the Ethiopian Government has resisted the temptation to interfere in the airline's affairs, but supports it by providing essential infrastructure – for example, in the form of a new, \$3 billion airport that will have an eventual capacity of 70 million passengers annually.

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Other factors in Ethiopian's favour are good relationships between management and workers; a more balanced route network, which earns just one-third of its revenue from Africa, yet has a 15-point domestic route network; and strong relationships with other African nations, including investments in other carriers.

Apart from Ethiopian, Kacou and El-Houry believe that Royal Air Maroc, RwandAir and Air Cote d'Ivoire show real potential.

Three better-known names – EgyptAir, Kenya Airways and South African Airways – face a more uncertain future, they believe.

The factor of highly variable infrastructure standards in Africa can be demonstrated in a single statistic: an astonishing 36% of all Africa's international traffic passes through just three hubs – Addis Ababa, Johannesburg and Nairobi, home to Ethiopian Airlines, Kenya Airways and South African Airways respectively.

Even modest investments in aviation infrastructure can bring major benefits: for example, the lack of a \$500,000 X-ray machine at Malawi's Lilongwe Airport effectively blocked the export of millions of dollars-worth of agricultural produce.

The authors make the point that transport infrastructure does not, in itself, create jobs, but is an essential pre-condition for the successful growth of aviation as a whole. And aviation does produce jobs, not only directly in airlines and at airports, but in the huge network of companies that provide the essential support for them.

Backing this up, the International Air Transport Association (IATA) says that investing in airlines brings a return on investment (ROI) of 4%; investing in aviation support service companies may be less glamorous, but they reliably provide an ROI of 10-40%.

Kacou and El-Houry end their investigation with some conclusions.

Aviation, they say, can play a huge role in advancing Africa's future; the first countries to consistently support low-cost

carriers (which, with a couple of notable exceptions, such as South Africa's Mango and Fly Kulula in South Africa have tended to struggle in Africa) will reap the benefits. Low-cost carriers have successfully 'expanded the pie' in regions around the world by bringing flying within the cost range of many more people, getting them into the habit of flying.

Governments, say the authors, must liberalise their economic regimes and not subsidise national carriers that are clearly failing. Nor, they add, should they try to protect those companies by being obstructive to carriers from other nations.

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Private capital also has a vital role to play, by providing investments that may be beyond the means of cash-strapped governments.

And countries need to recognise that creating or expanding a successful aviation sector requires coordination between many industries. A prime example of this can be found in Dubai, where a supportive government has coordinated the growth of aviation infrastructure and a wide range of companies that, together, make up an aviation eco-system.

On the African stage, the Rwandan Government sees aviation as increasing both trade and tourism and, like Ethiopia, is creating a new national airport to support this growth.

Africa is on the verge of an aviation breakthrough, say the authors, but the sector on the continent needs governments and private enterprise to create the right conditions for it to flourish. ■

**LEADERS  
CAN PLOT THE  
WAY AHEAD:  
PAGE 22**



*One of Fly Africa's authors tells Alan Dron of his optimism about the future of commercial air transport on the continent, despite continuing hurdles that must be overcome.*

## Leaders need to plot the way ahead

**P**oor aviation infrastructure and high ticket prices are only symptoms of the deeper problem facing aviation in Africa, said Eric Kacou, co-author, along with Hassan El-Houry.

"The single most important factor is around the mind-set of the stakeholders – the understanding of what aviation is about and what it takes to succeed. People don't quite understand what it takes for a business to be successful.

"I think what's required is for some of the stakeholders in the industry, and business strategists, to share their perspective on what it takes for the industry to do well. It's through discussions and partnerships that we can see what is required."

One of the major factors likely to improve matters, said Kacou, is a new wave of national leaders who are coming to the fore in Africa: "They are very open to different ways of doing things and are forward-thinking."



Many of those leaders met in the Rwandan capital, Kigali, at the end of March to discuss how the continent could integrate better, with the aviation sector being one of the topics up for discussion. "There is a critical mass of leaders who want to see the continent do better and do things differently," he said.

For instance, said Kacou, he could see signs that African governments were no longer looking on airlines and passengers as mere cash cows to be milked year after year. The presidents of Rwanda, (Paul Kagame) and Senegal (Macky Sall), together with the prime minister of Ethiopia (Hailemariam Desalegn), "are all people who have bet on aviation as one of the sectors that can transform their economies and are taking practical steps for the sector to thrive.

"I've seen the commitments they have made and have seen those commitments followed by actual investments."

As well as the impending implementation of the Yamoussoukro Decision, which aims, ultimately, to create the same type of open skies arrangement that operates in Europe and allows airlines to fly wherever they wish, a

**Above: Eric Kacou is essentially optimistic that Africa's long-awaited commercial aviation growth is imminent.**

**Below: Hassan El-Houry with the book.**



complementary move is the introduction of the new African Union passport, which is designed to allow visa-free travel between nations.

Kacou believes that the new travel document, which was launched in June 2016, will play a part in improving the mobility of Africans, although it has some way to go. The passport will have three formats – an ordinary version for the general public, plus diplomatic passports and official/service passports, which will be issued to government officials who travel on official business.

"It has the potential [to facilitate travel]," said Kacou. Very few people currently had access to it, but the mere fact that it had been produced was a hopeful sign for the future. "It's not accessible to everyone; it's still something that's being given to only a few very senior leaders. It really hasn't reached critical mass as yet."

Additionally, not all of Africa's nations had signed up to it.



If it did become widely available: "It would make things significantly easier, but it's not clear to me that all the countries will allow people to come in without a visa."

One of the long-term puzzles of African aviation is why Nigeria, a powerhouse nation, has never become a major force in the continent's aviation sector. It has been without a national carrier for years and its largest international airline, Arik Air, was taken over by the government in 2017 for fear that it was about to collapse.

Why has this nation of close to 200 million people never taken off as a major force in Africa's aviation sector?

"There are a number of reasons," said Kacou. "People often forget that it's really a federal country, with a number of states. And, historically, it's a country where you've had huge difficulty in terms of infrastructure. I would also say you haven't had the demand in the past to justify a very vibrant aviation sector."

Despite factors such as these, however, Kacou is overall highly optimistic of the prospects for Africa: "I think we're at a new dawn for the aviation sector on the continent." ■

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The sun is going down on Air Seychelles' long-haul operations, that were handled by two Airbus A330-200s...

# Seychelles takes one step back to move forward

*Air Seychelles is undergoing a major restructuring as it feels the effects of a surge in long-haul competition.*

**Alan Dron** found out more from interim CEO, **Remco Althuis**.

**T**he Seychelles is a popular holiday destination in the Indian Ocean. In some ways, it has become too popular, with several major international carriers introducing services to the archipelago in recent months.

The intense competition for traffic has led Air Seychelles to begin a significant retrenchment, terminating its long-haul routes and aircraft, cutting personnel and focusing on domestic and regional services.

"The islands have been very heavily reliant on tourism and the country had a very liberal aviation policy – not 'open skies' but there's been a very active engagement with countries for bilaterals," explained interim CEO Remco Althuis. "What you've seen happening is the Middle East carriers have stepped in with these bilateral opportunities all over the Indian Ocean.

"During the financial crisis, the legacy carriers didn't quite have the fleet types to operate these routes. Now they've come out of the crisis and at the same time they have been getting these Boeing 787s, for instance, and now the Airbus A350-900 is coming on line, so they have a much better opportunity to operate

these routes more economically."

This means that most of the major European airline groups – IAG, Air France-KLM and Lufthansa Group – are making their presence increasingly felt in places such as Sri Lanka, Mauritius, the Maldives, and now, the Seychelles. This is on top of the presence of the major Middle East carriers – Emirates, Etihad, Qatar Airways and Turkish – which have been expanding rapidly in recent years.

That means there are a lot of empty seats on flights to and from the islands and small players like Air Seychelles have felt the brunt of this overcapacity.

A particular problem was the beginning of Air France flights from Paris in May. Paris was Air Seychelles' sole remaining European destination, after its decision to drop Dusseldorf in 2017 due to disappointing traffic loads.

"The announcement that they wanted to get back on to the Seychelles pushed us over the edge," said Althuis. "It's not a direct cause and effect but it clearly didn't help."

The Air Seychelles management quickly realised that the number of competing air services from Europe to the

Seychelles would have a significant impact on both passenger numbers and fare levels on the airline's three weekly flights to and from Paris. This accounted for 30% of the carrier's total passenger revenue, making the route unsustainable.

As the airline depended heavily on the Paris feed to fill seats on its connecting service to Antananarivo, it also decided to suspend services to Madagascar's capital.

As a result, Air Seychelles decided to get out of the long-haul side of its business. Its two Airbus A330-200s are being sub-leased to Fiji Airways.

Its two Airbus A320s, meanwhile, are being replaced by two A320neos, with the first scheduled to arrive as *African Aerospace* was going to press, and the second due to follow some six to 12 months later. Both the new aircraft are being leased.

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For domestic services, the airline will continue to depend on its fleet of six Twin Otter turboprops.

Air Seychelles' A320s can theoretically carry 180 passengers, but the distance of any diversionary airports from Victoria, the Seychelles' capital, means that the carrier has a payload of just 136 passengers, due to the requirement to have sufficient fuel on board to reach an alternate airport.

For the same reason, the new A320neos will be outfitted with 12 business-class and either 150 or 156 economy-class seats. "It depends what Airbus can give us, because they are working on

**"Resizing the workforce is a necessary step to create a lean and efficient company."**  
REMCO ALTHUIS

...But the company's inter-island services operated by Twin Otters, will keep going.



extra take-off weight for the neo," said Althuis. "If they can give us an extra tonne, which is in their brochure but not certified yet, we could potentially put in a few more seats.

Air Seychelles is looking at installing an 'economy-plus' section on its A320neos, which is likely to be given a new name to distinguish it from the rest of the cabin. "Up to the overwing exits we will have at least a 33-inch pitch and, depending on how many seats we put in eventually – 150 or 156 – it will be 29 inches or 30 inches for the rest. It will either be all 30-inch, or a few rows at 29-inch."



Althuis intends to keep Air Seychelles' full-service model, "although we are, like everyone, looking at what elements of the low-cost model we can apply. Like many other carriers we will try to get more ancillary revenue."

This will likely take the form of allowing passengers to manage their bookings, for example, giving them the opportunity to purchase certain favoured seat rows, either at the front of the cabin or at emergency exit rows.

"On the cost side, we have to become a more efficient airline. We will do the same, or more, with fewer people." This will involve reductions

in cabin crew and pilots, as well as in supporting flight and commercial roles.

"We fully understand how challenging these changes will be and we are establishing the optimum way of dealing with the transition," said Althuis when the news was announced in January. "During the coming months, the airline team will be working closely with the supervisory board, Etihad and the Government of Seychelles to preserve as many jobs as possible and provide assistance to staff. Resizing the workforce to our changing business requirements is a necessary step to create a lean and efficient company."

With the new aircraft due to arrive, Althuis and his team are looking at the future shape of the airline's route map. Increasing flights to Mumbai from five-weekly to daily is a possibility, although slots at the Indian hub are difficult to find. More regional destinations are being studied: "We're looking at the region more closely – Mauritius, Madagascar, Reunion etc – going forward."

Last year, several charter flights were organised from China using the Airbus A330s; repeating those will not be possible with the reduced fleet, "but never say never" for returning to China in the future, said Althuis.

The immediate aim is to consolidate, get costs in order, then look at the future, he added.

"Clearly, there are new, smaller aircraft with

longer range coming to market. They are not completely ready yet. With a 300-seater [the approximate capacity of the A330s], it has proven to be difficult, but with a 180-200-seater, who knows?" However, looking at this possibility will not happen over the next three years, he admitted.

Air Seychelles' regional and domestic services are profitable, with the services operated by the A320s and Twin Otters vital for the islands' economy. The company's business is seasonal, with late spring traditionally being a quiet period; with Ramadan falling at the same period this year, that has intensified the lull.

"The big paradox is that, given the seasonality of our business, we can't operate long-haul profitably. But, clearly, with more competition coming into the island, it's a larger market to feed our domestic flights."



The airline will concentrate on developing its inter-island services, including scenic flights and island charters, which are set to play an increasingly important role as more international travellers visit the archipelago.

Abu Dhabi-based Etihad Airways holds a 40% shareholding in Air Seychelles and has a management contract with the Indian Ocean carrier until 2022.

"They look to support us where they can," said Althuis, who was previously the Arab airline's regional general manager, Europe. Support for Air Seychelles includes assistance in maintaining its aircraft and in providing training for both pilots and cabin crew.

It all points to a challenging period for Althuis; will the retrenchment period make his job harder than he had originally been expecting when he was appointed to the role in December 2017? "I was well-briefed," he said. "I knew exactly what I was getting into."

The airline's Airbus A320s (seen here) will be replaced by A320neos in 2019.





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La compagnie malgache va ainsi augmenter son offre en sièges de 30% sur les vols domestiques et régionaux.

# Allons-y Madagascar!

*Air Madagascar a récemment dévoilé son plan de transformation à Paris.*

**Vincent Chappard** s'est entretenu avec le nouveau directeur général, **Rolland Besoa Razafimaharo**, et le PDG d'Air Austral, **Marie-Joseph Malé**.

**A** LEFA 2027 (Allons-y ! en français), c'est le nom donné au plan de transformation pour accompagner la mise en œuvre du Business Plan et le retour aux fondamentaux de la compagnie. Il s'articule autour de cinq axes : améliorer la qualité du service pour reconquérir la clientèle, assurer l'efficacité économique, organiser les activités MRO, accroître l'engagement citoyen et la mobilisation des salariés.

Le premier chantier sera la remise en exploitation des avions d'Air Madagascar. A ce jour, environ la moitié de la flotte de la compagnie est clouée au sol. Les principales raisons invoquées : un manque de moyens et d'investissements dans l'approvisionnement des pièces de rechange. Le nouveau DG va donc s'attacher à remettre à flot l'outil industriel d'Air Madagascar. La remise en vol du 4ème ATR va faciliter les opérations.

Air Madagascar compte exploiter les nombreuses opportunités avec notamment un fort potentiel pour le marché domestique et un engouement pour le pays au-delà de ses frontières. La compagnie malgache va ainsi augmenter son offre en sièges de 30% sur les vols domestiques et régionaux.

« Un programme sur la ponctualité est également en cours de lancement dont l'objectif est d'atteindre un taux de 85% sur l'ensemble des vols », affirme Rolland Besoa Razafimaharo.

Pour y parvenir, il a annoncé la création d'une filiale dédiée au développement du réseau domestique baptisée TSARADIA (se traduisant par Bon voyage). Cette filiale à 100% d'Air Madagascar bénéficiera d'une autonomie de gestion et d'une flotte d'ATR et de Twin Otter. Les correspondances seront coordonnées par Air Madagascar, Air Austral et Ewa Air.

Initialement prévue en avril, son lancement est imminent. Air Madagascar table sur deux rotations quotidiennes sur Nosy Be, Diego, Tamatave, Tulear, Fort Dauphin. Une rotation quotidienne à plus long terme est programmée sur Sainte-Marie, Maroantsetra, Sambava, Majunga et Morondava. Il s'agit de réactiver les boucles Nord et Sud du réseau domestique en répondant aux besoins du marché tout en assurant les correspondances avec les vols régionaux et internationaux sur Antananarivo.

Air Madagascar et Air Austral comptent déployer au maximum les synergies (réseau et flotte d'avions). Le partenariat repose sur le concept d'un bi-hub avec l'aéroport de Saint Denis de La Réunion et d'Antananarivo. Les aéroports de Mayotte et de Nosy Be seront également intégrés. Les tarifs et les vols d'Air Austral et d'Air Madagascar seront combinables pour offrir un package complet et un choix de correspondances inégalé aux passagers pour voyager hors et dans l'océan Indien.

D'autre part, Air Madagascar va renforcer l'axe Antananarivo-Paris à partir du mois de juillet 2018. Le redressement reposera également sur une augmentation significative de l'offre qui passera de deux à quatre vols hebdomadaires durant l'été (plus une autre route au départ de Marseille). Les vols sur Guangzhou (avec Air Austral) seront maintenus. Les dessertes régionales seront également densifiées en particulier sur Mayotte et Maurice.

Le processus de restructuration est enclenché sur des bases solides et durera 3 ans.

L'ambition d'Air Madagascar est de redevenir, avec son partenaire stratégique Air Austral, un acteur majeur dans l'océan Indien et en Afrique.

## SUMMARY

### AIR MADAGASCAR GOES BACK TO BASICS

A plan to transform the fortunes of both Air Madagascar and Air Austral was launched in Paris in February.

Nicknamed 'Let's go', the plan confirms that the airlines will work ever-closer together, bringing a fresh impetus to regional services.

The 'back-to-basics' plan focuses on five key areas:

- Improving service quality to win back customers;
- Ensuring economic efficiency and stability;
- Organising MRO activities;
- Enhancing public engagement; and
- Mobilising the workforce.

Air Madagascar's MD, Rolland Besoa Razafimaharo, is initially focused on recommissioning the airline's fleet as around 50% is currently grounded due to a lack of

availability – and investment in – spare parts.

The airline will initially concentrate on growing the domestic market before looking at expanding international flights within the Indian Ocean region. The intention is to grow the number of available seats by around 30% on domestic and regional flights, having already focused on service quality and punctuality, where an improvement to a rate of 85% is the target.

To achieve this the MD announced the creation of an autonomous subsidiary – named TSARADIA – dedicated to developing the domestic network and using a fleet of ATR and Twin Otter aircraft. Connections will be coordinated by Air Madagascar, Air Austral and Ewa Air, and initial services were planned for April 2018 concentrating on a bi-hub structure at Reunion and Antananarivo.

## SUMMARY

AIGLE AZUR  
BACK IN  
THE GAME

Aigle Azur's president, Frantz Yvelin, believes that new strategic partnerships and a greater concentration on long-haul routes are key to developing the French airline's strong potential, hopefully returning it to profitability by 2020.

After a return to equilibrium in year one, Aigle Azur will be profitable in 2019/2020 according to Yvelin.

Detailing the new strategic direction, ambitions and projects of the company, he said that Aigle Azur was "back in the game".

To this end, the company is going through a process of reinvention to reduce costs, improve productivity and to move, strategically, to adopt European Aviation Safety Agency (EASA) flight time limitations (FTL) regulations.

□□□□

Aigle Azur already had a large network in the Middle East and Africa, flying from Paris' Orly airport to Lebanon, Algeria, Mali and Senegal, while the recent arrival of a pair of A330s gives new impetus towards long-haul network development – an "unprecedented bold turn" claims Yvelin.

Long-haul development is, however, complementary to the short and medium-haul network that remains Aigle Azur's core business.

The two A330s have been serving Bamako in Mali – in code share with Corsair – since April 28 this year, while Beijing has been served from Orly since June, enhancing the airline's position as a major player between Orly and Algeria, Lebanon, Mali, Senegal, Portugal and Germany.

Aigle Azur has also created a code share deal with Air Caraïbes and new partnerships with Hainan Airlines, Azul Brazilian Airlines and TAP.



Le développement futur d'Aigle Azur s'inscrit selon Frantz Yvelin dans une logique de partenariats stratégiques.

# Back in the game

*Aigle Azur se lance sur le long-courrier et annonce de nouveaux partenariats pour « un développement de son très fort potentiel ».*

*Des détails avec Anuradha Deenapanray.*

**A**près un retour à l'équilibre en une année, Aigle Azur sera bénéficiaire en 2019/2020 selon son président, Frantz Yvelin. Détaillant la nouvelle orientation stratégique, les ambitions et les projets de la compagnie à Paris récemment, ce dernier a déclaré qu'Aigle Azur était « back in the game ».

Pour cela, la compagnie est passée par un processus de réinvention reposant sur un plan de réduction des coûts, d'amélioration de la productivité, d'un passage à la logique FTL de l'EASA, de l'adaptation du modèle de compagnie régulière à une logique hybride et de l'installation des bases saines et solides.

Aigle Azur dispose d'un réseau important au Moyen-Orient et en Afrique depuis la France vers le Liban, l'Algérie, le Mali et le Sénégal.

## La voie du long-courrier

L'arrivée des deux A330 donne ainsi une nouvelle impulsion au développement de la compagnie, « marquant un virage audacieux sans précédent ».

Les deux A330 desservent Bamako en codeshare avec Corsair depuis le 28 avril dernier avec cinq vols hebdomadaires. Et depuis juin, Aigle Azur est la première compagnie à desservir la Chine (Pékin) à partir d'Orly avec trois vols hebdomadaires.

Cette acquisition marque « une étape concrète de plus dans le développement de la compagnie » et de nouveaux horizons en pérennisant sa position d'acteur majeur entre la France et l'Algérie, le Liban, le Mali, le Sénégal, le Portugal et l'Allemagne.

Aigle Azur a également un nouveau partage de codes avec Air Caraïbes.

## Partenariats stratégiques

Le développement futur d'Aigle Azur s'inscrit selon Frantz Yvelin dans une logique de partenariats stratégiques.

La compagnie consolide ses assises sur ses destinations traditionnelles et s'équipe pour conquérir d'autres marchés. Sa nouvelle stratégie repose dans une large mesure sur de nouveaux partenariats avec notamment Hainan Airlines, Azul Brazilian Airlines et TAP.

## Une vision de conquête

Frantz Yvelin qualifie TAP de « nouveau partenaire d'envergure qui donnera une nouvelle dimension de/vers une destination phare : le Portugal ». Elle est synonyme « de confiance, avec une expérience et des compétences reconnues ».

Miguel Frasilho, CEO de TAP Group estime que ce partenariat sera bénéfique pour les deux parties. « TAP est sur une trajectoire ascendante avec une flotte de 88 appareils en 2017, plus de 14 millions de passagers transportés l'année dernière et une bonne rentabilité. Nous avons surtout une stratégie gagnante. »

Aigle Azur veut profiter de la place de leader que tient TAP non seulement en Europe et au Brésil mais elle veut aussi consolider sa présence en Afrique à travers le réseau de TAP, présente dans une dizaine de pays. La compagnie compte capter d'autres marchés émergents du continent.

## Une réinvention du réseau moyen-courrier

Le développement vers le long-courrier est complémentaire au réseau court et moyen-courrier qui demeure le cœur de métier d'Aigle Azur. Forte d'une logique entrepreneuriale, la deuxième compagnie aérienne régulière française, annonce une réinvention totale de son réseau moyen-courrier européen en renforçant les fréquences et en pérennisant ses dessertes d'Orly.

« L'esprit pionnier, c'est savoir innover et pouvoir fédérer. Et bien sûr, ce n'est que le début de la nouvelle histoire d'Aigle Azur. »

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# Flagging up a furore

*Zimbabwe's shock decision to acquire four Boeing wide-bodies and set up a new flag-carrier raises more questions than answers, as*  
**Martin Rivers**  
*reports.*

**T**he delivery of a 13-year-old Boeing 777-200ER to Zimbabwe has ignited a row over corruption and alleged misappropriation of funds in the final days of former president Robert Mugabe's rule.

Government officials welcomed the new aircraft – the first of four purchased from Malaysia Airlines – at a ceremony at Harare's Robert Gabriel Mugabe International Airport on April 11. It is painted in the colours of a new airline, Zimbabwe Airways, which aims to restore long-haul connections formerly served by Air Zimbabwe, the chronically mismanaged state-owned flag-carrier.

Yet, without even taking to the skies, Zimbabwe Airways is already courting the same controversy that dogged Air Zimbabwe during Mugabe's time in office.

Transparency is by far the biggest concern.

Having first claimed that Zimbabwe Airways is a private company funded by members of the diaspora, Joram Gumbo, the Transport Minister, has now said it is state-owned. Earlier statements to the contrary were, he insisted, designed to minimise the risk of aircraft seizures by Zimbabwe's overseas creditors.

"That story would have made sense, but on the delivery flight it was spoiled by [Mugabe's son-in-law, Simba] Chikore, who disembarked from [the aircraft] with full command stripes that he does not have," said Jerry Haas, an African aviation expert based in Harare.

Chikore's involvement with Zimbabwe Airways has fuelled speculation that the Mugabe family is still calling the shots in the local aviation sector.

In October 2016, Chikore was appointed chief operating officer of Air Zimbabwe after – based on his own account – Mugabe telephoned Gumbo to recommend him for the job. That same month, the three men travelled to Malaysia and agreed to buy four 777-200ERs for \$70 million during a meeting with the country's prime minister. At the time, the aircraft were intended for service with the historic flag-carrier.

However, Chikore resigned from Air Zimbabwe one year later, just as Mugabe was overthrown in a bloodless coup. And he took the 777 order with him, beginning work in a new, Government-appointed role as the accountable

manager of Zimbabwe Airways, which is leasing the planes from Zimbabwe Aviation Leasing Company, another state-owned firm.

Gumbo has downplayed the curious sequence of events, telling *NewsDay* that Zimbabwe Airways was actually set up in 2012 as a planned replacement for Air Zimbabwe – but that the project was put on ice to give the flag-carrier a chance to "resuscitate" itself.

His account is broadly endorsed by Finance Minister Patrick Chinamasa, who has described Air Zimbabwe as a "bottomless pit" that needs to "put its house in order" – a reference to its heavy debts, repeated corruption scandals, and last year's EU blacklisting.

□□□□□

For his part, Chikore has only heightened concerns about transparency by making false claims in the media.

Defending the lack of a public tender for the 777s, he told *The Standard* that \$70 million was an "amazing deal" which represents "about 5% of the value" of the aircraft. He also claimed that maintenance work on the 2001- and 2004-build aircraft had made them like "brand new", citing their recent C-checks.

George Dimitroff, head of valuations at Ascend, a consultancy that specialises in valuing aircraft, fact-checked the claim: "A C-check being performed does not make the aircraft 'brand new'... The C-check is only a small portion of overall maintenance cost, so it doesn't shift the value dial much."

Dimitroff said the \$70 million purchase price sounds "about right" for last year's market conditions, noting that an oversupply of 777-200ERs has hit re-sale values in recent times. Establishing a precise valuation is not possible unless Zimbabwe discloses their full maintenance histories. If the four jets were delivered straight from D-checks, they could be worth up to \$97 million. If they are in "half-life" maintenance condition, their value plummets to \$53 million.

Putting aside questions about ownership and financial transparency, the biggest concern for Zimbabwe Airways is commercial viability. ■



## DE NOUVELLES ROUTES POUR TASSILI AIRLINES

*La compagnie algérienne Tassili Airlines continue l'expansion de son réseau malgré des difficultés financières et récemment un manque de ponctualité de ses vols. Des détails avec Vincent Chappard.*

La compagnie aérienne du groupe Sonotrah a lancé une nouvelle ligne Oran Strasbourg. C'est la continuité de la ligne Alger-Strasbourg qui s'ajoute aux routes déjà existantes vers la France. Pour le porte-parole de Tassili Airlines, Karim Bahar, l'ouverture de cette nouvelle desserte répond aux sollicitations de la communauté algérienne établie dans la région. Elle offre une alternative pour les voyageurs sans avoir à se déplacer vers d'autres aéroports situés parfois dans des pays frontaliers de la France.

La compagnie aérienne Tassili Airlines est également en discussion avec les autorités américaines, avec le soutien du Conseil d'affaires algéro-américain (USABC), pour l'ouverture éventuelle d'une ligne vers Houston en septembre 2018.



Elle devrait concerner le transport des passagers notamment liés à l'industrie pétrolière ainsi que du fret. Cette route serait bénéfique pour les déplacements des ressortissants américains travaillant dans le sud de l'Algérie et pour le transport des marchandises algériennes vers les États-Unis.

Tassili Airlines a été créée il y a maintenant 20 ans pour des vols pour ses activités au secteur pétrolier. Depuis 2011, elle a étendu son réseau au grand public pour des vols charters internationaux. Elle opère aujourd'hui une flotte de 20 avions composée de Boeing 737-800, de Bombardier Q200 et Q400, de Beechcraft 1900D et de Cessna C208B. Tassili Airlines a commandé trois Boeing 737-800 en avril 2017. La compagnie va en prendre livraison au second semestre 2018.

### SUMMARY

## NEW ROUTES FOR TASSILI AIRLINES

Algeria's Tassili Airlines continues to expand its network.

Sonotrah Group's own airline, created two decades ago to service the oil industry, has launched a new Oran to Strasbourg route, dovetailing with existing Algiers to Strasbourg flights.

Tassili is also in discussions regarding flights direct to Houston, Texas, that could begin in September

2018. This route would assist US nationals working in the southern Algerian oil industry.

The airline currently operates a fleet of 20 aircraft comprising Boeing 737-800s, Bombardier Q200s and Q400s, Beechcraft 1900Ds and Cessna C208Bs. It ordered three Boeing 737-800s in April 2017 and these will be delivered in the second half of this year.

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# Bryan looks West for growth

*Delta Airlines is targeting the growth potential of Nigeria. Chukwu Emeke explains why.*



**We are anticipating a 10% growth in passenger figures for the African region and a 36% growth specifically for Nigeria.**

**BOBBY BRYAN**

**D**elta Airlines began direct flights between Nigeria and the US in 2007 and volumes are steadily increasing. This, says the airline, is because successive Nigerian Governments have intensified efforts towards diversifying revenue sources away from just crude oil to agriculture, entertainment and other segments.

Bobby Bryan, Delta's commercial director, east, west & central Africa, said: "West Africa is a region that we see rapidly evolving and the trend is that it is becoming like anywhere else in the world."

Travellers from the region now desire the same good services that they see in America, Europe and Asia. We have seen increasing demands as a result, in terms of both the amount and different kinds of travel."

In response to this trend and, as part of its customer satisfaction strategy, Delta is tailoring its on-board meals to suit Nigerian tastes. "We also offer Nollywood films on our aircraft," added Bryan. "We started with morning flights here. Now, we also have the evening flights, because that is what the market wants."

The country's goods and services trade totalled an estimated \$9.0 billion in 2016 and the World Bank is forecasting a gross domestic product (GDP) of 2.5% this year.

Bryan said the need to link two financial centres of Lagos

and New York informed Delta's recent launch of non-stop flights between Lagos MMA and New York JFK.

The New York-JFK and Atlanta flights from Lagos are operated using 234-seat Airbus A330-200 aircraft, offering an elevated on-board experience in every cabin. This includes radio-frequency identification (RFID) bag-tracking technology, enabling customers to follow their bag's location from check-in to the baggage carousel through notifications sent to their mobile phones.

According to Bryan, operational challenges in Nigeria's aviation sector are seen as growth opportunities by his airline. "As we look to bring our innovations here, we work with local authorities to make sure that the technologies and space are available. One thing about the Nigerian market is that as we make efforts to work there, we always find something new."

Delta operates to four other African cities in Ghana, Senegal, South Africa and the Gambia, offering 44 flights per week. It transported more than 377,000 passengers in 2017 under strong partnerships with Kenya Airways, alongside joint venture partners like Air France-KLM, Alitalia and Virgin Atlantic.

□□□□□

More than 89,000 passengers were carried between Nigeria and US in 2017, with an average 82% load factor. A 36% increase in capacity was recorded year-on-year, with almost 3,300 weekly seats between Nigeria and the US.

"We are anticipating a 10% growth in passenger figures for the African region and a 36% growth specifically for Nigeria," revealed Bryan. "This is a big change from 2017," said Bryan.

Last year was a challenging one for Nigeria's economy; foreign investors, including airline operators, had to contend with difficulty in access to foreign exchange (forex). Bryan attributes the 2017 decline in passenger traffic, compared to 2016 figures, to this situation. "However, we started seeing increases again from the fourth quarter of 2017," he said, adding that the airline's priority for Nigeria in 2018 is to make the Lagos-New York flights perform.

"We will be spending a lot of our time on making sure that we give the right kind of service, making sure that the market is aware of our services and meeting the needs of the market while we continue to expand."

Globally, Delta recorded an operating revenue of \$41 billion in 2017 and plans to invest \$12 billion to improve the air travel experience, spread over the next 10 years.

The airline gives back 1% of its profits as a corporate social responsibility initiative, involving communities in countries it operates into in Africa, including Nigeria. ■

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- B737-300/400/500 (Line & Base Maintenance)
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- Dash8 100/200/300/400 (Line & Base Maintenance)
- HS125 – All series (Line & Base Maintenance)

### ROTARY WING (AIRFRAME)

- S76C (Line & Base Maintenance)
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### ELECTRICAL AND AVIONICS WORKSHOP

- AIRCRAFT BATTERY OVERHAUL
- REPAIRS OF ELECTRICAL SYSTEMS
- FDR PARAMETER MONITORING AND DOWNLOAD
- FDR PARAMETER ANALYSIS (in view)
- BENCH TEST OF ELECTRICAL COMPONENTS
- CALIBRATION OF TOOLS AND EQUIPMENT
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## Maureva at ONE with IATA

*Maureva, a leading Mauritian airline software and service solutions provider, is now a strategic partner of the International Air Transport Association (IATA) on a major modernisation programme.*

**Anuradha Deenapanray** met the management team at the company's headquarters in Mauritius.

**L**ocated in the heart of the Ebene cybercity, the IT and high-tech hub of Mauritius, Maureva employs 180 specialists with an average age of just 30.

As a pioneer from 20 years ago, the company has carved out a solid reputation – both in the region and internationally. It operates in highly specialised fields, including airline revenue accounting, airline analytics, business process outsourcing (BPO), flight-scheduling, and crew and cargo management.

Strategically based in the Indian Ocean, it has privileged access to Africa, Asia and Europe, while providing a fully bilingual environment in English and French.

It deploys diverse airline software and service solutions. For example, its Edgar revenue accounting system covers the requirements of full-service, hybrid and low-cost carriers, while Edgar miscellaneous billing is a tool to manage the lifecycle of invoices. This segment represents the core (around 80%) of the company's business activity.

"We offer tailor-cut, flexible and efficient solutions, which integrate specific business requirements by understanding airlines' uniqueness while adhering to industry standards," said Maureva director, Nicolas Boyer.

The company is a leader in passenger revenue accounting in Africa for francophone airlines. Among its clients are: Air Burkina, Air Côte d'Ivoire, Asky, Air Austral, Air Cairo, Air Madagascar, Air Vanuatu, Air Zimbabwe, CAA, CEIBA, EWA Air, Malawian Airlines, Mauritania Airlines, Trans Air Congo and TACV Cabo Verde Airlines.

In the Middle East and Europe, it presently works with Iran Air, Iran Airtour, Iran Aseman Airlines, Iraqi Airways, SalamAir, Czech Airlines, Air France and XL Airways.

It has new clients since last January namely Drukair, the national airline of Bhutan, SmartWings and Vietjet, based in Hanoi and since March, Air Belgium and the Japanese carrier Star Flyer.

"We serve prestigious airline companies stretching all over the five continents to help strengthen their competitive edge, lower costs and retrieve comprehensive insight analytics," said Romain Angella, head of business development.

Maureva has developed products like Margo, which covers cargo revenue accounting and cargo management systems; Alexis, which is a complete flight-scheduling and crew management solution; and Matis, the latest cloud-based business intelligence and decision-management system.



In August 2017, the company embarked on a major project – the IATA ONE order programme.

ONE Order is the concept of a single customer order record, holding all data elements obtained and required for order fulfilment across the air travel cycle. It aims at bridging the gap between today's passenger service system (PSS) and e-commerce retailing platform to simplify the distribution ecosystem.

According to IATA, the standard has great potential to drive revenues and reduce costs.

"As an IATA strategic partner, we are collaborating on projects which are shaping the future of our industry," said Boyer, adding that Maureva would continue its extensive contribution to the ONE order taskforce.

"This enables us to develop a solution with a full knowledge of the workflow within the airline industry," he said.

Maureva is already an IATA partner on airline revenue accounting. The company is now recognised by the industry body as a certified provider and deployment partner of Air Austral for the new distribution capability (NDC) initiative.

# Congo's Desire to take

*Congo Airways SA, the national carrier for Democratic Republic of Congo, has huge plans for the future. Githae Mwaniki finds out more from the airline's CEO, Desire Balazire Bantu.*

**C**ongo Airways SA turns four this year. In another five to ten years it might be almost totally unrecognisable if all of its plans come to fruition.

That's the view of Desire Balazire Bantu, who was appointed CEO in April 2016.

The 55-year-old has more than 30 years' experience in auditing, corporate finance, management, accounting and public finance. He previously worked for KPMG – one of the world's 'big four' auditors – before becoming adviser to the DRC's minister of finance and senior adviser to the prime minister.

"In the next five to ten years, Congo Airways will be a big company in central Africa," he predicted. "The airline will be flying to Europe, Asia and America."



It's a bold statement for an airline that currently boasts just five aircraft, but the CEO has good reason for his optimism.

"The strategic position of the DRC is a valuable asset for the rapid growth of the airline," he explained. "It is the only African state that has nine neighbours – Uganda, Rwanda, Burundi, Tanzania, Zambia, Angola, Republic of Congo, Central African Republic and South Sudan.

"DRC is the second biggest country in Africa by its size and one of the top five populated. This shows that there is a potential market for an airline company."

Bantu believes that this massive catchment area – central Africa is generally poorly served – allied to the fact that his team is determined to succeed over the operational challenges thrown up by the continent, will make all the difference.

Congo Airways was created in August 2014 and launched commercial flights in October 2015. Already it has carried

more than 700,000 passengers. The state owns 39.93% of the airline with 30.68% in the hands of the INSS pension fund, employees taking 1.70%, and the remainder belonging to public-owned companies.

"Congo Airways is already starting to conquer the African sky," said Bantu. "We started with Johannesburg and in the coming weeks want to add Douala (Cameroon), Cotonou (Benin), and Abidjan (Ivory Coast)."

Congo Airways SA – the SA initials are a French acronym which refer to limited companies – currently operates five aircraft. "Four were acquired on equity – two Airbus A320-200s and two Bombardier Dash 8-Q400s – and one Airbus A320-200 we took on wet lease from Tunisian airline Nouvelair," explained the CEO. "Our aircraft are very young. It makes a difference. We have no others on order at the moment but we're still talking about brand new aircraft with Airbus, Boeing, Bombardier and financiers. Some of them will be wide-bodies for the long haul."



# up the challenge...

The airline is already planning a number of additional destinations. "As well as covering some important towns in Africa, we expect to fly to Asia, Dubai, China and Europe in 2019. That gives us enough time to make decisions on appropriate aircraft," added Bantu.

"As a customer-driven airline, we want to increase the network and acquire additional aircraft according to the need of our passengers."

The company promotes five specific values – safety, reliability, integrity, customer satisfaction and professionalism. To that end, it is gaining the International Air Transport Association operational safety audit (IOSA) certificate within the DRC.

"Our endeavour is to provide quality aircraft and services that defy all competition," said Bantu. "The company is expanding towards regional and international routes and hopes to please its customers even more with its fleet composed of regularly maintained aircraft and well-trained staff."

**Congo Airways is already starting to conquer the African sky. We started with Johannesburg and in the coming weeks want to add Douala (Cameroon), Cotonou (Benin), and Abidjan (Ivory Coast).**

DESIRE BALAZIRE BANTU

The company uses several different methods to market its services and the route network both domestically and internationally, including radio, television, magazines and newspapers etc.

Turning to wider issues Bantu believes DR Congo and central African airlines still have plenty of challenges to handle – the DRC had one of the worst aviation safety records, often contributed to by the use of aged Eastern European-built aircraft. "Congo Airways is the response to the problem that occurred in the industry in the DRC," said Bantu. "The company is working to improve both safety and the security."

And he has some slight concerns about the single air transport market agreement signed in January by the African Union heads of state.

"Africans must share the same vision," he said. "The SATM is a good idea but all African countries are not on the same level. The airlines in countries that are facing challenges will disappear because they can't face competition with strong and well-established airlines." ■



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Ivor Ichikowitz: "Behind our innovations, advancements and global success, is an attitude inspired by our African heart – a can-do mind-set that continually challenges the status quo."



**Sam Basch** takes a brief look at South Africa's Paramount Group, which is headed by Ivor Ichikowitz, a man who seems to have the ability to see opportunities others often overlook and who continuously grows his innovative defence group across the air, land and sea domains.

# THE PARAMOUNT PICTURE...

It is tempting to see in the Paramount Group's executive chairman and CEO, Ivor Ichikowitz, a chess master pitted against a line of players simultaneously. In executing a deliberate move here, he leaves the opponent pondering a suitable counter-move, as he purposefully strides over to the next board for yet another, equally calculated attack.

His mind seems adept at analysing and playing a range of activities all at once.

In real life, Ichikowitz does move fast and purposefully in the manner of one who knows where he is heading. His voice and animated gestures tend to strengthen this impression. As a young man, he actually enrolled for drama studies in Johannesburg, which got him into protest theatre before he travelled through Africa and immersed himself in the continent's literature.

Africa is where his roots are – and his heart.

"Behind our innovations, advancements and global success, is an attitude inspired by our African heart – a can-do mind-set that continually challenges the status quo," Ichikowitz said.

This philosophy is the force still driving the company he established at the dawn of democracy in South Africa in 1994. These were turbulent times, but they provided the spark that ignited a fireball of innovation in aerospace and defence to roll around the world.

An example is the Mwaru aircraft that is attracting attention wherever it is shown – about which more in a moment.

Intriguingly, Paramount was initially built with little if any dependence on the domestic

Continued  
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market. That is because the focus was on the rest of Africa and, later, further afield. Ichikowitz saw it as his mission to project Africa's skills and expertise to the rest of the world. "Africa is able to produce world-class products capable of competing with the main defence technologies in the world," he said.

Today, this global company with more than 3,000 employees, innovating in aerospace, combat systems, maritime and advanced technologies, works with sovereign governments across five continents. Importantly, it has manufacturing operations in Africa, Asia and the Middle East.

"We've built solid relationships and formed valuable partnerships with governments, agencies and defence organisations in more than 30 countries around the world," he explained.

Paramount claims to be the largest privately owned defence and aerospace business in Africa, with a reputation for developing and delivering integrated solutions for defence, internal security and peacekeeping forces.

According to the company profile, the Paramount Group has an aerospace offering comprising supersonic fighter aircraft solutions, air force establishment, systems integration, avionics, unmanned aerial vehicles (UAVs), and sighting and mission sensors. Integrating advanced systems that extend the mission performance and lifespan of fixed-wing aircraft, helicopters and unmanned airborne vehicles, is a key competence.



Part of the problem for many African nations has often been a less-than-adequate defence budget to acquire new aircraft, including helicopters and UAVs, military vehicles and naval vessels. Since its foundation years, Paramount has set up funding structures to enable clients to procure traditionally hard-to-finance packages to suit their available resources.

This is one of Paramount Group's core competencies to this day. Its comprehensive finance capability incorporates a wide range of funding structures compliant with international Monetary Fund (IMF) and World Bank requirements. This allows for Paramount to create defence solutions that are not only affordable but also best-in-class.

In addition, the group has built significant expertise in aircraft upgrade and modification, maintenance, integration, logistics and training solutions.

This African capability is available to any air force in the world, which extends the service life of aircraft while reducing the high acquisition costs of new equipment.

In recent months, Paramount was able to enhance its pilot training capability through the acquisition of four dual-seater Dassault Mirage F1 fighter aircraft from the French Government. These aircraft will complement Paramount's



**In February, Paramount announced the Bronco II aircraft as another precision-strike command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) aircraft based on its AHRLAC.**

Impala/Aermacchi MB-326 jet trainers, previously operated by the South African Air Force (SAAF), at the training academy north of Pretoria, where pilots with basic flying skills are instructed in combat techniques.

Paramount's experience with the F1 is based on its acquisition of the SAAF's retired Mirage F1 fleet some years ago, complete with spares stocks, simulators, training aids and other related material.

This gave it full airframe and engine overhaul capability, as well as the ability to upgrade and modernise avionics and mission systems.

With the latest acquisition, Paramount has a platform to introduce supersonic fighter capability to growing air forces, along with full maintenance and ground support, air base overhaul and pilot training.

At the signing of an agreement in April with US-based Draken International for the on-going engineering support of its fleet of Mirage F1M aircraft recently acquired from the Spanish Air Force, Draken International CEO, Jared Isaacman, rated Paramount as "one of the few companies in the world that possesses extensive depth of F1 experience and knowledge".

While always focused on doing things differently, Paramount has laid the groundwork for innovative manufacturing, which it calls a 'portable manufacturing' model. It enables in-country manufacturing, transfer of technology and skills, and the creation of local job opportunities. Examples of this model can be found in Jordan and Kazakhstan, where some of Paramount's land combat vehicles are manufactured.

Depending on the requirements of the client, this could also result in the rolling out of a defence industrial complex, thus creating

significant benefits for the economy.

"We believe that our solutions-focused approach has contributed to our success," Ichikowitz said. "Many companies manufacture products and then take them to market. Paramount starts by assessing the security and defence challenges faced by the governments and agencies we work with. We then apply our unparalleled knowledge, wealth of experience and vast capabilities to craft world-class solutions to directly address these needs."

These needs, according to Ichikowitz, include versatile aerospace and defence technology that can support nations in building security, supporting economic growth and providing stability to their citizens, institutions and core industries.



He believes the aerospace and defence industry is an important driver of innovation in any economy, which has positive downstream benefits for sub-suppliers, sub-contractors and services providers.

As Paramount approaches 25 years in business, Ichikowitz continues to instil the original 'can-do' mentality into the younger generation of engineers and technicians; in fact, into all employees.

This is found in his philosophy of leveraging aerospace innovation, which got Paramount to start developing a 'smart' aircraft – as reported in these pages a year ago. Shown for the first time at the IDEX exhibition in 2017 in Abu Dhabi, Mwari is a weaponised version of Paramount's advanced high-performance reconnaissance light aircraft (AHRLAC) now produced in a state-of-the-art 15,000sqm factory north of Pretoria.

Paramount was able to enhance its pilot training capability through the acquisition of four dual-seater Dassault Mirage F1 fighter aircraft.



‘Mwari’ translates as ‘all-seeing being’ in the African Shona language. It is slated as a versatile, low-cost platform with the same intelligence-gathering and precision strike capabilities usually associated with a larger class and significantly more expensive aircraft.

Therefore, it is particularly suited to nations and regions, such as the Middle East and sub-Saharan Africa, where the constantly evolving threats of extremism, terrorism, insurgency, piracy and asymmetric warfare remain pervasive.

It conforms to what Ichikowitz describes as the need for an “aircraft that can perform multiple mission-types with greater reliability and technological efficiency in challenging environments”.

In an opinion piece entitled ‘Ensuring aerospace innovation meets tomorrow’s challenges’, he posed two questions. First, how do we better equip governments with the aerospace capabilities needed to tackle such threats when the world is changing so rapidly? And second, how do we ensure that today’s R&D is going to meet challenges of tomorrow, which we cannot yet predict?

Mwari emerged from Paramount’s expansion of the envelope with what it terms revolutionary approaches. “Along with other global innovators, we eradicate the inefficient sub-supply chains and place emphasis on close-coupling the engineering and manufacturing processes; primarily by adopting ground-breaking approaches to prototyping and manufacturing through advanced kinematics, computational fluid dynamics (CFD) analysis, and advanced 3D printing,” he explained.

According to the Aerospace Development Corporation (ADC), in which Paramount holds a

stake, the aircraft is a clean-sheet, next-generation design, using the latest CATIA and digital design systems specifically aimed at digital production. This involves all the innovative principles of the ‘fourth industrial revolution’ by emphasising the use of rapid digital prototyping, laser additive and 3D printing, and a jig-less manufacturing approach.

For Ichikowitz, the new philosophy “allows for a quicker turnaround time from design to factory floor and an ability to make rapid adjustments to specifications. This swift process allows us to constantly modify aircraft in order to keep pace with external technological and security advancements – without having to re-engineer a complex manufacturing system or rebuild a supply chain.”



An unexpected benefit of digitised R&D and manufacturing is that new centres of engineering excellence can rapidly be developed anywhere. Being Africa-based, Paramount believes it has special insight in defence challenges faced by ‘unpredictable’ regions of the world, thus making it “possible for us to design and manufacture our products anywhere in the world”.

In February, Paramount announced the Bronco II aircraft as another precision-strike command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) aircraft based on its AHR/LAC.

Launched by newly created Bronco Combat Systems (BCS) USA, the Bronco II is a purpose-built, sophisticated airborne find/fix/finish/exploit/analyse (F3EA) system. It will be able to operate for extended periods in

remote theatres with minimal infrastructure and a small logistics and maintenance footprint.

According to BCS USA, work has started on establishing a manufacturing base that will enable the full production of the airframe and mission systems integration in the US. The ability to industrialise the Bronco II in its totality in the US was made possible by the fact that the aircraft is 100% digitally designed.

The Bronco II operates at a fraction of the procurement and lifecycle cost of an aircraft with similar mission applications and capabilities.

There is more to Paramount than its aerospace business, high-speed naval vessels, armoured vehicles, military optronics, and its communications and electronic systems business.

Ichikowitz deserves credit for taking a keen interest, and investing, in anti-poaching technologies.

With an eye on saving wildlife like rhinos and elephants, especially in South Africa’s Kruger National Park and Gabon Parcs in west Africa, he donated a Gazelle helicopter and K9 unit for the protection of the latter’s precious rainforest elephants.



His Ichikowitz Family Foundation, established in 2010, focuses on developing Africa’s young generation through education programmes, promoting human rights, conservation of the continent’s unique biodiversity and a better understanding of Africa’s modern history.

“It’s become a passion for me and I think, irrespective of our politics today, those of us who have lived through liberation struggles and other conflicts across Africa have an obligation to ensure that we contribute to the continent’s future by preserving its rich history for future generations,” he said.

He also founded the African Oral History Archive, a global effort to record and showcase the continent’s acclaimed or unknown history makers.

The foundation’s philanthropic work is based on intelligent giving, capacity building and, ultimately, helping people and places to help themselves.

Its award-winning #IamConstitution campaign is a nationwide awareness and educational drive to commemorate the 20th anniversary of South Africa’s first democratic founding document in 2016.

“Today, the challenges of being a responsible, effective citizen are more diverse, nuanced and complex than in the past,” he said. “Sustaining democracies, strengthening economic competitiveness and meeting local, national and global challenges, demand a broader vision of citizenship for the 21st Century.”

Ichikowitz knows the impact he has made: “From our humble beginnings, Paramount Group is today recognised as a very important player in the global aerospace and defence industry,” he concluded. ■

# FARMAGEDDON

*Mali is rapidly becoming a major terrorist focus point. Alan Warnes looks at how the Force Aérienne de la République du Mali (FARM) is combating the problem.*

In recent years, Mali has become a hotbed for jihadi fundamentalists. It led to the French military pushing into the troubled African state on January 11, 2013, under Operation Serval, which was succeeded by Operation Barkhane on August 1, 2014.

A truce was brokered in June 2015 between the Mali Government and the Tuareg-led rebels, which had been infiltrated by Islamic State, al Qaeda and other extremists.

However, the conflict has continued, with many of the jihadi groups still carrying out attacks against domestic and foreign forces in the country.

The creation of a multinational anti-jihadi G5-Sahel force to combat the Islamic State in the Greater Sahara (ISGS) and Ansar al-Islam is, according to a recent United Nations report, causing more unrest to the 4 million population.

In recent months, the jihadis, which a year ago offered isolated pockets of resistance in the north, have increased their presence in central Mali, leading to an increase in the violence.

The United Nations multidimensional integrated stabilization mission in Mali (MINUSMA), established in 2013, has 11,000 troops deployed there, and is regarded as the most dangerous UN operation in the world.

The UN has aviation support, with Germany providing a small number of NH90s transport aircraft and Tigres, which spend most of their time at Gao in the north-east, with a regular shuttle to Bamako International Airport.

One of the Tigres crashed on patrol, claiming the lives of the two German Army crew members in July 2017.

The Canadian Government announced on March 19 that the Canadian forces will deploy

two Chinook CH-47D transport helicopters for logistical support and medevac duties and four armed Griffon helicopters, as well as troops.

El Salvador will also provide ground troops with aerial cover in the shape of six US-built MD500 attack helicopters. Three have been operating out of Timbuktu, where much of the violence in the north has been occurring, since 2015. Another trio will deploy in July to work alongside Canada, which will replace the Germans at Gao.

On the domestic front, the US has been supporting the training of Force Aérienne de la République du Mali (Mali Air Force, FARM).

At least one pilot, Captain Issa Tangara, attended six months of English language training at Lackland Air Force Base, Texas in March 2016, which should have led to an 18-month scholarship with the aviation leadership program and Flight School at Maxwell Air Force Base. It's likely he will fly the Embraer A-29 Super Tucanos, which will be delivered soon.



Most of the FARM's recent inventory, which comprised six ex-Bulgarian Air Force Mi-24D Hinds, 14 Teta 912CSL training aircraft, four An-26 and three BT-67 Turbo-Dakotas, has been withdrawn from use or destroyed in recent years. Two of the Mi-24Ds were reputedly being put back into service in early 2015 but it is unclear if they are flying now.

In February 2016, the FARM purchased a solitary Airbus CASA C295W transport aircraft to assist with transporting Mali troops around the country. Being less dependent on risk-prone convoys is a priority, particularly travelling through the deserts of northern Mali.

The aircraft, serial number TZ-11T (c/n 159), was delivered on December 20, 2016 and is also believed to carry out medical and casualty evacuation, often flying to remote and inaccessible areas supporting Mali and UN troops.

In late-2016, Portsmouth-based Vector Aerospace converted an oil and gas-configured AS332L1 (c/n 2046) into a military utility role, at the company's Fleetlands site. This was delivered via ship in January 2017. It has joined another example delivered in October 2016 by an unknown supplier.

In September 2017, the FARM acquired two Harbin Y-12E light transport aircraft from China's Aviation Industry in China (AVIC). These fly the shorter distances in place of the C295.

Later in 2017, the FARM took delivery of two new Mi-35M Hind gunships, which will support Mali troops on the ground during operations.

During a ceremony to mark the arrival of the Y-12Es and Mi-35Ms, the Mali President, Ibrahim Boubacar Keita, announced "another CASA" would also follow, in addition to another pair of Mi-35Ms and four Embraer A-29 Super Tucanos.

The latter have been seen flying in Brazil since late-2016 and it is likely they are now being used to train pilots there before being delivered. These new light attack aircraft will boost Mali's fire power considerably and, at the same time, modernise the way they work with new technologies.

The Mali Government certainly understands the need to re-equip with modern hardware, even if it is unclear who is funding the steep procurement curve. ■

## SOMMAIRE

## MODERNISER LE MALI

*Le Mali devient de plus en plus un point névralgique du terrorisme.*

**Alan Warnes** fait le point sur les actions menées pour combattre ce problème.

Depuis ces dernières années, le Mali est devenu un foyer pour les intégristes et les djihadistes. Cette situation a conduit l'armée française à lancer l'opération Serval dans le pays en janvier 2013. L'opération Barkhane a pris le relais le premier août 2014.

Une trêve a été négociée en juin 2015 entre le gouvernement malien et les rebelles dirigés par les Touaregs, infiltrés par l'État islamique, Al-Qaïda et d'autres groupes extrémistes. Cependant, le conflit s'est poursuivi avec de multiples groupes djihadistes menant toujours des attaques contre les forces maliennes et étrangères basées dans le pays.

La création d'une force multinationale anti-djihadiste (G5-Sahel) pour combattre l'État islamique au Sahara (ISGS) et Ansar al-Islam est à l'origine, selon un récent rapport des Nations unies, de multiples troubles pour les quatre millions d'habitants du Mali. Au cours des derniers mois, les djihadistes ont accru leur présence dans le centre du pays.

La Mission multidimensionnelle intégrée des Nations unies pour la stabilisation au Mali (MINUSMA), créée en 2013, compte 11 000 soldats déployés dans le pays. L'ONU bénéficie d'un soutien aérien pour cette opération considérée comme la plus dangereuse menée par l'organisation dans le monde.

□ □ □ □ □

L'Allemagne fournit des NH90 et des Tigres qui sont essentiellement basés à Gao avec une navette régulière vers l'aéroport international de Bamako. L'un des hélicoptères Tigres s'est écrasé en patrouille en juillet 2017 coûtant la vie aux deux membres de l'équipage de l'armée allemande. Le gouvernement canadien a annoncé le déploiement de deux hélicoptères Chinook CH-47D, de quatre hélicoptères Griffon ainsi que des troupes. Le Salvador fournira également des troupes au sol et une couverture aérienne avec six hélicoptères MD500. Les États-Unis soutiennent également la formation de la Force Aérienne de la République du Mali (FARM).

La flotte de la FARM compte six Mi-24D Hind de l'Armée de l'air bulgare, 14 avions Teta 912CSL, quatre An-26 et trois BT-67. Ces derniers ne volent plus. En février 2016, la FARM a acheté un Airbus CASA C295W pour soutenir les troupes maliennes à travers le pays. Fin 2016, Vector Aerospace a converti un AS33211 avec une configuration pétrolière et gazière en une version militaire. En septembre 2017, la FARM a acquis deux avions chinois Harbin Y-12E et a pris livraison de deux nouveaux Mi-35M Hind.

Lors de la cérémonie de livraison des Y-12E et Mi-35M, le président du Mali, Ibrahim Boubacar Keita, a annoncé l'arrivée d'un autre CASA C295W, de deux Mi-35M et de quatre Embraer A-29 Super Tucano.



UK-based Vector Aerospace converted an oil and gas AS332L1 Super Puma into a military-configured transport helicopter in late 2016. It was delivered, by ship, in late December.

PICTURE: VECTOR AEROSPACE

Left: Two Mi-35 Hinds were delivered in late-2017 and are expected to be joined by another pair.

PICTURE: FARM.

Jon Lake reveals that it's good news and bad news for Egypt's Rafales.

# Rafale delays hold back the Wild Wolves progress



Egyptian pilots during conversion training to the Rafale in France.

**T**he first Egyptian Rafale squadron (34 'Wild Wolves') is now fully operational and remaining aircraft will equip a new unit within the 203rd Tactical Fighter Wing 'Storm' at Gebel El Basur Air Base, about 85km north-west of Cairo.

However, Egypt's plans for the wing have been thrown into disarray by delays to a planned follow-on buy of 12 more aircraft.

It was expected that the new batch would allow the formation of three squadrons each with 12 aircraft, or of two larger 18-aircraft units.

Despite this uncertainty, the Egyptian Rafales are in full operational service, and flew their first combat mission on May 26/27 last year, providing air cover for strikes against Daesh targets.



Egypt placed an order for 16 two-seat Rafale Bs and eight single-seat Rafale Cs in February 2015, though the Egyptian aircraft soon received their own designations; the two-seaters becoming Rafale DMs and the single-seaters Rafale EMs.

Deliveries began on July 20 2015, when the first three Egyptian Rafale DMs were delivered, allowing them to take part in the opening ceremonies for a new side channel of the Suez Canal, located at the northern side of the east extension.

These first three Rafales were originally built for the French Air Force as Rafale Bs, but were diverted to Egypt instead, following the removal of some French equipment.

The first two-seat Rafale DM built from scratch for Egypt left Dassault Aviation's assembly line in mid-

December 2016 ahead of delivery on January 28 last year, with two further aircraft built as Rafale DMs.

Dassault delivered only a single Rafale to France in 2017, but sent eight single-seat Rafale EMs to Egypt. Three went from Bordeaux-Merignac to Gebel El Basur on April 4 2017, with two more following on July 26 and three on November 28, all staged via the French Air Force's Base Aérienne 125 at Istres-Le Tube.

Dassault had flown the first Egyptian Air Force Rafale EM single-seater on July 1 2016. Initial flight-testing was undertaken from Bordeaux-Merignac and then transferred to Istres.

By the end of 2017, the Egyptian Air Force operated 14 Rafales, of the 24 originally ordered. These were armed with Mica air-to-air missiles, and AASM Hammer guided missiles and were expected to receive MBDA SCALP cruise missiles.

Egypt has long planned to acquire 12 further Rafales and a contract aimed at converting Egypt's 12 options into firm orders is believed to have been drawn up during Egyptian leader, Abdel Fattah al-Sisi's, visit to Paris in October 2017. French Finance Minister, Bruno Le Maire, was initially reported to have been reluctant to agree to the sale because of the payment terms asked for by Egypt.



But, in the event, the order was held up by another, rather different problem, with the US refusing to clear the export of a key (but unspecified) component for the SCALP cruise missile.

In the meantime, Egypt is preparing to introduce 48-50 MiG-29M2 fighters into service. These lack the long-range strike capabilities of the Rafale, but if the SCALP issue cannot be resolved, the usefulness of the more expensive Rafale may be limited, and the need for 12 further aircraft will be hard to justify, despite the Egyptian Air Force's long-standing links with Dassault (having flown the Mirage 5, and the Mirage 2000, as well as the Falcon 7X). The Rafale was procured precisely because it has strike capabilities lacking in Egypt's other fighter aircraft types.

Another Rafale customer, Qatar, has successfully decided to buy 12 extra Rafale fighter jets as part of an existing contractual option, Dassault Aviation has confirmed. Qatar has provided a down-payment for the 12 aircraft, allowing Dassault to record the deal in its 2018 order book. The order came into effect on March 27.

Qatar's original €6.3 billion (\$7.8 billion) order for 24 Rafales was signed on May 4 2015, and included weapons and some training provision.

Dassault is increasing its production rate to two Rafales per month, double the recent rate, in response to recent sales to India, Egypt, and Qatar. The assembly line will, of course, still shut down for a traditional French one-month summer holiday in August.

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# DIAMOND SPARKLES

*Diamond Aircraft set out to woo new buyers by undertaking a west African tour with two of its aircraft. David Oliver followed the mission's progress.*

**T**he Austrian Diamond Aircraft DA42, a four-seat twin-engine all composite aircraft, first flew in 2002. More than 900 have been produced to date.

The DA42 multi-purpose platform (MPP), launched in 2007, was rapidly adopted by armed forces around the world as a multi-engine trainer and light intelligence, surveillance and reconnaissance (ISR) platform.

The success of the DA42 encouraged Diamond to press ahead with the development of a larger version in 2011 that emerged as the 5/7-seat DA62. Although aimed primarily towards the civil/commercial market, Diamond received European Aviation Safety Agency (EASA) supplemental type certification (STC) for another DA62 MPP version, a maritime patrol configuration, at the beginning of this year.



At the end of last year, the company's special mission aircraft department embarked on a high-profile demonstration tour of west Africa with the latest variant of the DA42 MPP configured for the maritime patrol market, the Pandion, and the new DA62 MPP.

Shown for the first time, the Pandion offers a high-tech surveillance package that includes a compact mobile ground station.

The Pandion-configured DA42 MPP special mission aircraft (SMA) was equipped with a Trakker SWE400LE sensor that included electro-optical/infrared (EO/IR), laser range-finder, autotracker and target position, and a 36M-pixel camera providing high-resolution images.

Its maritime radar, designed in-house by Diamond Aircraft, provides automated identification system (AIS) signals and receiver, a Thuraya BLOS satcom system, and a Trakker



The Pandion-configured DA42 MPP SMA took part in several maritime patrol missions during its tour of west Africa.

moving map display.

The independent ground station, powered by 230V battery or external generator, has two-way communication to track the aircraft's actual position, plus past and upcoming track of AIS signals that include details of a ship's transponder, registration and vessel monitoring systems (VMS).

Screen shots from the EO/IR camera include GPS position of a target, high-resolution images, voice communication via satcom with aircraft crew, AIS signals via internet or AIS antenna, live video store and a forward satcom cost breakdown.

The two Diamond SMAs departed Wiener Neustadt in Austria on October 6 2017 for Cape Verde. The three-day transit route to Praia, the capital of Cape Verde, a nation on a volcanic archipelago off the northwest coast of Africa, included Avignon in France, Jerez and Fuerteventura in Spain, and Nouakchott in Mauritania.

Two major missions had been identified by Cape Verde's coastguard. Firstly, search and rescue (SAR) to spot fishing boats in distress or simulated ditched aircraft on the water, and secondly, illegal fishery in Cape Verde's waters.

Both missions are important to support Cape Verde's fishing fleet, as well as its major income from its fishery industry.

As a result, all designated targets provided by the Cape Verde military were spotted and identified by the DA42 MPP's crew. The data received by the mobile ground station, including EO/IR images, high-resolution photos, videos and radar images, met all requirements from the military.

In addition, the crew spotted and identified a vessel that had switched off its AIS signal outside the planned demonstration.



Diamond had also received an invitation from the director of Senegal's Direction de la Protection et de la Surveillance des Pêches (DPSP) to demonstrate its Pandion SMA.

A real on-site mission scenario had been developed on the basis of the DPSP's daily tasks, which included the monitoring of illegal fishing.

During several missions over the following days, a lot of suspicious targets were identified and spotted by the crew, while the data received by the mobile ground station impressed the DPSP officers and air force personnel.

Diamond also decided to attend the Ghana Air Show from October 24 to 26 to meet existing customers and develop new markets.

Three Diamond DA42 MPP aircraft are already operated by the Ghana Air Force (GAF) in the

**The Diamond DA62 MPP special mission aircraft (SMA) made its African debut in October 2017.**

PICTURE: DAVID OLIVER.



maritime and border surveillance role, with pilots and rear crew trained by DO Systems Ltd.

According to Ian Griffiths, DO Systems CEO, the DA42's flexibility had been further demonstrated when one of the GAF aircraft was equipped and successfully interfaced with calibration equipment supplied by Flight Calibration Services Limited.

A joint GAF/DO Systems crew flew the aircraft from Takoradi to Accra to conduct certification of the new CAT II ILS at Kotoka International Airport.

The focus of Diamond's 2017 visit to Ghana was to introduce the new DA62 MPP SMA.

The new platform brings together all the well-known advantages of Diamond products, using heavy fuel turbo-charged engines, state-of-the-art glass cockpit and full carbon-fibre technology. Its cabin is large and provides more comfort for the crew, as well as more room for airborne mission equipment. Mission applications include SAR, coastline and border patrol, force protection, disaster management, plus pipeline and infrastructure monitoring.

The last leg of the tour ended on October 27, when the two aircraft visited Abuja for a static display and demonstration to Nigeria's Border Patrol.

The conditions were hot, around 35°C on the apron, when officials of the Border Patrol, which is planning to resuscitate its air unit to target the

porous border with Niger, inspected the aircraft.

In addition, the DA62 MPP was demonstrated to AeroPrecisa, a privately-owned, and technology-based aerial photography company in Nigeria, which already operates a DA42 MPP equipped with Vexcel UltraCam-Lp digital camera throughout Africa and the Middle East.

"After months of intensive efforts and in close cooperation with local partners, Diamond succeeded in scheduling high-level meetings with air forces, MoDs, and large private service providers protecting their countries against drug smuggling, piracy, border crossing and illegal fishery activities," said Markus Fischer, Diamond sales director special mission aircraft, who piloted the DA62 MPP.



"We had the unique opportunity to demonstrate the performance and capabilities of our airborne solution in real scenarios. We flew about 30 hours of missions, providing data from the aircraft to the ground without any technical incident on the aircraft or mission equipment.

"The full composite structure, no risk of corrosion, as well as the turbocharged heavy fuel engines, very strongly supported Diamond's sales arguments in using the latest technology and state-of-the-art aircraft.

"The usage of Jet-A1 made the flight planning simple and allowed the most efficient and straight-lined leg planning. The average turn-around time on the ground was only an hour, due to the availability of Jet-A1 on the apron. No scheduled maintenance stop had to be coordinated due to the 100-hour maintenance intervals of the AE300/AE330 engines, which made the spare parts handling straight forward and simple – an absolute key element when operating complex aircraft in Africa.

"The circumstance that both aircraft will burn less than 1,400US gallons or 5,320 litres in 120 hours over a distance of 8,260 nautical miles is a statement of efficiency that cannot be ignored by any conscientious operating organisation. Diamond has, and will again, demonstrate the outstanding sufficiency of the aircraft with regards to direct operating cost and maintenance."

The scope of heavy challenges for the aircraft and mission equipment used in the demonstrations ranged from more than 42°C on the ground at Nouakchott in Mauritania, low-level operations in Cape Verde, high-level performance during the transit flights and extreme sandy air conditions in Senegal, which proved the worth of the aircraft's strong air filter systems.

As a follow up to the successful west African tour, Diamond will have the DA62 MPP on display at the African Aerospace and Defence show in September 2018. ■

PICTURE: OUTISINN

Angola has been persuaded to add the C295 to its maritime fleet.



## Angola orders C295s for maritime surveillance

Angola has ordered three C295 transport aircraft from Airbus Defence and Space, writes *Jon Lake*.

The aircraft will be used in the maritime surveillance role, operated by the Angolan Navy, and will be tasked with monitoring the nation's exclusive economic zone.

The C295 is a development of the Spanish-Indonesian CASA/IPTN CN-235 transport aircraft, but with a stretched fuselage and new Pratt & Whitney Canada PW127G turboprop engines, giving 50% greater payload capability.

The contract value was reported as €160 million (\$185m), leading some observers to suggest that this price indicated that the aircraft would be equipped with specialised maritime surveillance equipment.

There are a number of C295 maritime surveillance and patrol versions, with varying levels of specialised mission equipment.

## Huey II simulators hunt for Kenya and Uganda

The US Army is carrying out market research to find a contractor that can deliver a level 5 flight-training device (FTD) to Kenya, with a potential option for an additional Huey II FTD for the Republic of Uganda, writes *Jon Lake*.

The study, being undertaken on the US Federal Business Opportunities website, says the contractor would also provide training and technical support for the Bell UH-1H Huey IIs recently delivered to Kenya and Uganda, including the simulator training of an initial class of 16 Kenyan pilots.

□□□□□

Kenya received its first six Huey II helicopters in December 2016. In September 2016, Bell Helicopters won an \$87.6 million contract to supply Kenya and Uganda with 13 more Huey II helicopters (eight more for Kenya, and five for Uganda) and spares.

The last of the eight 'batch 2' Huey IIs for the Kenyan Air Force were delivered in July 2017, while the aircraft for Uganda completed refurbishing and conversion at Bell's Ozark, Alabama, facility in November 2017. The helicopters were subsequently sent to Huntsville, Alabama, from where they will be transported to Uganda.

The US Federal Business Opportunities website

At the lower end of the scale, the C295 SAR is a dedicated search and rescue variant for the Canadian Armed Forces.

Meanwhile, the Portuguese C295M PG02 has a palletized MPA fit, with an ELTA EL/M-2022A(V)3 search radar, a FLIR Systems Star Safire 380HD electro-optical (EO) sensor, and side-looking airborne radar (SLAR), as well as an Ultra airborne acoustic system.

□□□□□

Chile's Airbus C295MPA is equipped with a Telephonics APS-143C(V)3 search radar and an unidentified magnetic anomaly detector (MAD), while Oman's C295MPA has an ELTA EL/M-2022A radar, an under-nose forward-looking infrared (FLIR), and a forehead fairing, plus rear fuselage fairings for

directional infrared counter-measures (DIRCM), as well as an Ultra airborne acoustic system. No MAD is fitted.

The C295MPA versions have provision for six hardpoints to carry torpedoes, missiles, mines and depth charges, and have also performed airborne separation tests using MBDA's Marte Mk2 anti-ship missile.

They can be equipped with up to two pressurised, 10-shot rotary launchers, plus two racks for 93 A, F, and G-sized sonobuoys (113 total). The aircraft are fitted with a fully integrated tactical system (FITS).

According to Airbus, a total of 206 C295s have been ordered and 165 have been delivered to the armed forces of 15 countries.

In Africa, Algeria has six C295s, while Egypt has 24. Ghana operates three C295s, which it flew on behalf of the United Nations MINUSMA contingent in Mali. ■



The US Army is urgently seeking a simulator supplier for Kenya's new Huey IIs.

revealed that the Department of the Army is looking for a contractor to build a hangar at Soroti in eastern Uganda, together with a ramp and flightline. This is to be capable of accommodating three Huey IIs.

The Bell Huey II modernisation programme takes ex-US Army UH-1Hs and upgrades them to the new UH-1H Huey II standard.

The Bell UH-1H basic airframe is rewired and refurbished to original equipment manufacturer (OEM) standards (zero timing the airframe), and modern avionics and mission systems are fitted, including an optional glass cockpit.

Roll-over bulkheads, rupture-resistant fuel cells,

wire strike protection, and jettisonable crew doors are also provided.

Maximum gross weight is increased to 10,500lbs, and the combination of commercial Bell 212 dynamic components with the 1,800shp Honeywell T53-L-703 engine gives a significant increase in hover performance in hot conditions, while reducing direct operating costs.

The Huey II is a significantly more sophisticated and advanced helicopter than the original UH-1H, which makes simulator training even more important – particularly for aircrew used to 'steam age' rotorcraft with analogue cockpits and more austere avionics. ■

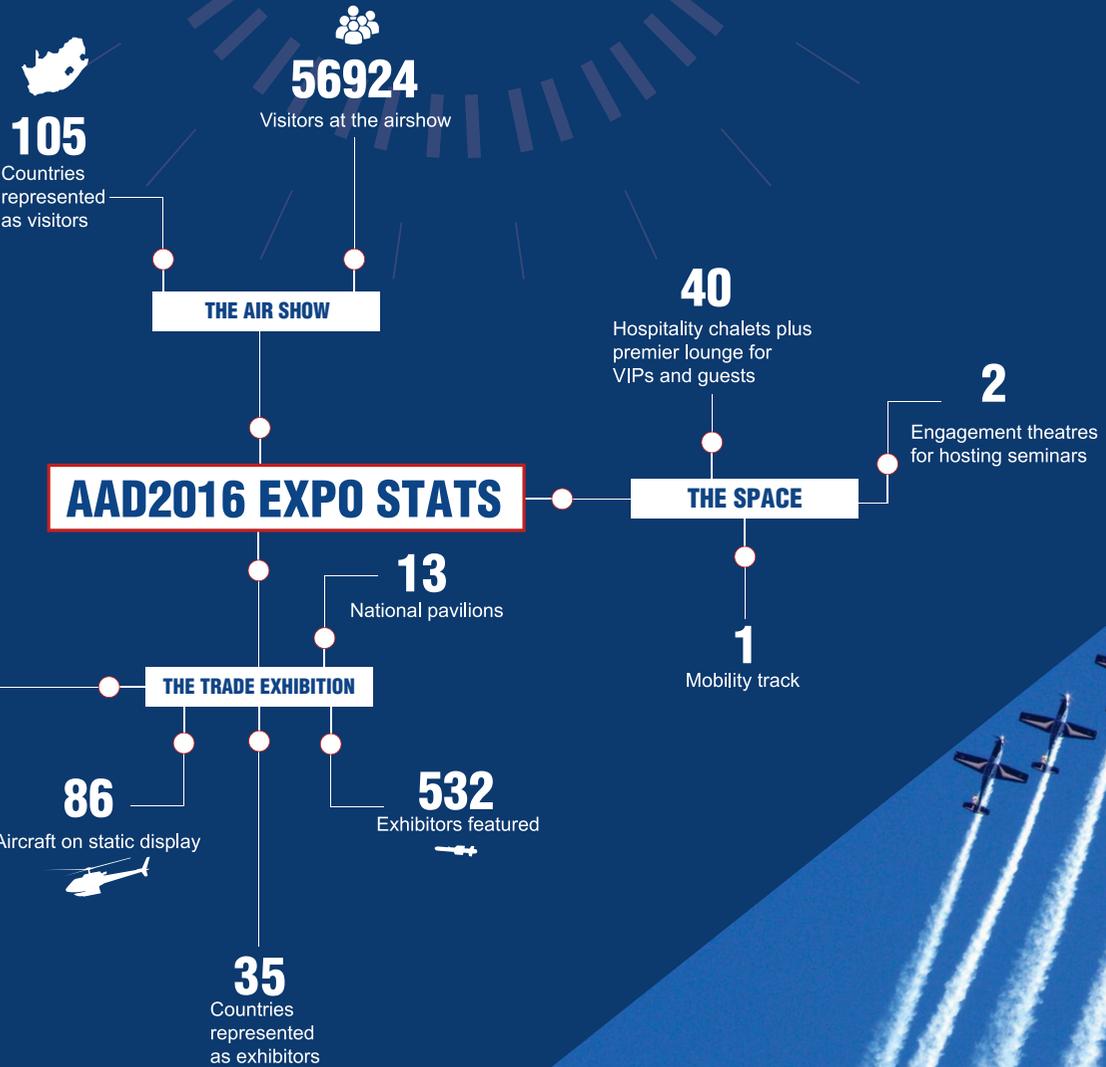


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*Aero Vodochody's L-39NG jet trainer programme received a considerable boost in early April when the Senegal President, Macky Sall, announced a deal for four of the new generation classics. Alan Warnes reports.*

# Senegal steps in for light-attack L-39NG

**R**ather than taking Czech company Aero Vodochody's L-39NG in its trainer configuration, the four Senegal jets will be optimised for the light-attack role.

This, according to Aero Vodochody president and CEO, Giuseppe Giordo, represents "a big trust by everyone to order a new jet trainer/light-attack aircraft which has still not flown, even if the L-39CW is proving a lot of its development".

He sees it as vindicating his company's decision to launch two versions of the world's best-selling jet trainer: "It is our flexibility towards integrating new weapons that marks the difference between us and our competitors."



The trainer NG version is expected to be certified by the end of 2019, aided by the L-39CW prototype, while the dual-seat combat version will follow in mid-2020.

According to L-39NG vice president, Marco Venanzetti: "The first two aircraft will be delivered to Senegal in the second half of 2020 and the second pair in 2021. As the light-attack version is based on the basic trainer configuration but armed, there doesn't have to be any structural modifications.

"The light-attack L-39NG will have five hard points – one on the centre-line and two under each wing.

## SOMMAIRE

### LE SÉNÉGAL CHOISIT LE L-39NG

**L'armée sénégalaise a commandé quatre L-39NG avec des livraisons prévues en 2020-2021. Cet avion d'attaque léger sert pour le développement de la nouvelle génération L-39.**

**Selon Aero Vodochody, la flexibilité d'intégrer de nouvelles armes marque la différence de cette version avec ses concurrents.**

**Elle devrait être certifiée d'ici fin 2019 grâce au prototype L-39CW. La version de combat biplace suivra vers la mi-2020.**

**Les deux premiers avions seront livrés au Sénégal au second semestre 2020, les deux autres en 2021. De bonnes perspectives existent pour le L-39NG en Afrique. Aero Vodochody va aussi former des pilotes et des instructeurs.**

"The basic configuration, which we are going to clear, will have two 350 litre external tanks, Mk 81 (250lb)/ Mk82 (500lb), laser-guided/free falls bombs, unguided/guided rocket launchers and single/twin barrel gun-pod. This will be available on the centre-line as well as on two under wing pylons, should the customer need more fire-power. There will also be two air-to-air missiles (AAMs). This benchmark will satisfy 80% of our customers."

The classic AIM-9L Sidewinder is the standard AAM on offer by the manufacturer, but the likes of the Python V, for example, could also be integrated if required. The AAMs will be mounted on the two outer external hard points under the wings.

Unlike the original L-39, the L-39NG will not be fitted with wing-tip tanks, providing it with a distinctively more modern look.

Venanzetti added: "The Senegal jets will have a dedicated 12.7mm Herstal gun, Mk 81/82 unguided bombs and unguided rockets launchers. A jamming pod, targeting pod and an electro-optical/infrared EO/IR turret can also be added if the customer wants them, although Senegal has not requested them yet."

A fully digitized Elbit Systems Targo II helmet-mounted system will also be integrated for the aircraft. "This works well with the training concept we have for the aircraft, with

The Senegal Air Force has ordered four L-39NGs in the light attack role, with deliveries expected in 2020/21. This L-39CW is being used as the development aircraft for the new generation L-39.

PICTURE: ALAN WARNES.



the ability to simulate all type of missions as part of the Israel Aerospace Industries (IAI) virtual training system."

Aero is also considering the development of a single-seat version, dedicated to light-attack, which will house another 200kg of fuel, pushing the jet's endurance up to 4.5 hours without external tanks.



Massimo Ghione, the company's chief business officer, revealed Senegal has taken out a performance-based logistics contract. "It is a three-year deal that will start when the first two aircraft are delivered in 2020, based on each aircraft flying a minimum 100 hours per year, so we can tailor their support."

Four pilots will be fully converted to the L-39NG at Aero's facility before the first two aircraft are delivered. Aero will then train another four pilots in-country and all eight in the tactical combat mission. Of the eight L-39NG pilots, Aero will train two of them as instructor pilots (IPs).

The L-39NGs will be the first jets the SAF has operated since five ex-Brazilian Air Force CM-170R Magisters were delivered in 1976, which were topped up with two ex-French Air Force examples in 1984. All were withdrawn from use by the late-90s. ■

## PARTNERSHIPS PROGRESS IN SENEGAL AND NEW JERSEY

*Two rounds of the African partnership flight (APF) programme were conducted in March and April 2018.*

*Jon Lake reports on progress.*

The APF programme is the premier US Air Forces in Africa (AFAFRICA) security cooperation programme with African partner nations, and is intended to improve professional military aviation knowledge and skills through multilateral, military-to-military engagements with the continent's air forces.

It concentrates on developing, enhancing and sustaining core air mobility operational capabilities including command and control, aerial port operations and aircraft maintenance.

Senegal 2018 was the 12th APF since the programme began in 2012 and was the second event to be co-hosted by that country, taking place at the Captain Andalla Cissé Air Base.

The other co-host was the 818th Mobility Support Advisory Squadron, responsible for building capacity with strategic partner nations in the US Africa Command area of responsibility.

Over the course of the week-long event, the 10 air forces from the USA and Senegal, as well as Benin, Burkina Faso, Côte d'Ivoire, Gabon, Ghana, Mali, Mauritania, and Togo, compared notes and exchanged ideas on the best procedures for aeromedical evacuation, casualty evacuation and air and ground safety.

Previous APF exercises have focused on aviation maintenance, peacekeeping operations, humanitarian assistance delivery and disaster relief missions.

The US contribution included about 40 US airmen from US Air Forces in Europe and Air Forces Africa, and one C-130H from the West Virginia Air National Guard's 130th Airlift Wing. Approximately 70 pilots, aircrew and medical professionals represented the nine African partner nations.

Tactics, techniques and procedures (TTPs) were discussed in a classroom setting, before being practically applied on the ground and in the air. African participants were able to ask questions and experience how the US handles casualty and aeromedical evacuation.

"I really enjoyed it; it allowed us to learn how other countries do aeromedical evacuation," said Lieutenant Fakhane Diouf, an APF participant from the Senegalese Air Force.

Colonel Boucar Sene, the second in command of the Senegalese air force, hosted the closing ceremony on March 23. He was thanked by Lieutenant Colonel

Andrew Allen, chief of the global health engagements branch, US Air Forces in Europe and Air Forces Africa.

"I would like to thank the Senegalese Air Force for graciously co-hosting this event. Without your leadership and support, this event would not have been possible," he said.

The next round of the APF programme took place in April at Joint Base McGuire-Dix-Lakehurst, New Jersey, home of the 818th Mobility Support Advisory Squadron and its parent unit, the 621st Contingency Response Wing (CRW).

The 621st CRW is tasked with training and rapidly deploying personnel to open airfields and establish, expand, sustain, and coordinate air mobility operations from wartime tasks to disaster relief.

Around 55 military representatives from 13 African countries – Angola, Botswana, Cameroon, Chad, Ghana, Morocco, Niger, Nigeria, Rwanda, Senegal,

Tunisia, Uganda, and Zambia – attended the week-long event, which ran from April 16-20. This round of the programme focused on the full cycle of deployment operations for a tactical airlift unit with classroom instruction, briefings and unit tours. Expertise was provided by the 87th Air Base Wing and the 305th Air Mobility Wing, both based at Joint Base McGuire-Dix-Lakehurst.

The 305th Air Mobility Wing consists of the 6th Airlift Squadron operating the Boeing C-17A Globemaster III transport aircraft and the 2nd and 32nd Air Refueling Squadrons, operating McDonnell Douglas KC-10A Extenders.

Major Mario Tjimbungu of the Força Aérea Nacional de Angola (National Air Force of Angola) said: "APF is a meeting where we can share information and knowledge, so we can look forward to one day operating together. For me, it's important because, as we can see, the world is getting smaller and we are now closer to each other. So, if we get to know each other better, in the future we can operate together with no problems."

Brigadier General William Knight, vice commander of the US Air Force Expeditionary Center, said: "The US has benefited from partnerships, such as the ones being forged through APF. Just across the river is Philadelphia, where nations partnered with us so that we could gain our independence. Without those partnerships, I think most historians would say it's doubtful that our nation would have been able to gain its independence." ■



Participants in APF Senegal watch a casevac demonstration by USAF personnel.

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Instead of its usual 95-seat layout, the aircraft touring Africa was outfitted with an executive cabin capable of seating up to 19 passengers.

# From Russia with verve...

*With the first Sukhoi SSJ100 airliner for an African customer due to be delivered this year, the Russian manufacturer has toured the continent with its executive jet variant.*

**Alan Dron**  
*reports.*

**A** week-long tour of African nations by a RusJet-operated SSJ100 business jet in April displayed the aircraft to a number of potential customers.

The SSJ100's business jet version was presented to interested companies in Nigeria, Kenya and Uganda as part of a trade mission organised by the Russian Export Center (REC) and the African Export-Import Bank (Afreximbank).

The airline version of the twin-jet, which carries 95 passengers, has been in service with several Russian carriers, as well as with Interjet of Mexico and CityJet of Ireland for some years now. It has proved popular with passengers for its spacious cabin and with its operators, although the president of Russia's Sukhoi Civil Aircraft Company (SCAC), Alexander Rubtsov, admitted at last November's Dubai Air Show that more work was needed to improve the company's after-sales service.

Instead of its usual 95-seat layout, the aircraft touring Africa was outfitted with an executive cabin capable of seating up to 19 passengers. Its cabin has several zones, incorporating areas suitable for business meetings and rest, including a sofa that converts to a bed, plus a wardrobe and toilet.

RusJet's aircraft can also be fitted out in an eight-passenger 'night configuration' with a queen-sized bed and chairs suitable for sleeping. In its executive configuration, the aircraft has a range of 2,390nm (4,420km).

This size of cabin puts the SSJ100 very much into the top rank of executive aircraft, providing more internal volume

than Bombardier or Gulfstream's top-of-the-range models, although it is still smaller than the Boeing Business Jet MAX family, which is converted from the US company's latest 737 MAX range.

The Superjet is due to appear in African skies on a regular basis shortly, after Zambia signed the first African contract for the type in 2017. This order is believed to be for four airliners and one VIP version.

The airliners are reported to be destined for delivery from this year onwards to the new national carrier, Zambia Airlines, while the VIP version will be for the use of the country's president; SCAC declined to give details of the eventual operators, beyond saying that the customer is a governmental organisation.

"Negotiations with several countries in the African continent are in progress at different stages," a SCAC spokeswoman said. "Our potential customers are expressing interest in both the general version of the SSJ100 and its VIP version, including special-purpose modifications similar to the Russian Ministry of Emergency Situations (EMERCOM) examples."



EMERCOM has two SSJ100s that can act as airborne command posts with extensive on-board communications systems. Both can also act as medevac aircraft.

Following the SSJ100's demonstration tour, the REC and Afreximbank are looking at the possibility of establishing a leasing company to support future SSJ100 deals in Africa, said SCAC.

The SSJ100, meanwhile, is continuing to be developed; in February, SCAC received approval from parent company, United Aircraft Corporation (UAC), to go ahead with a smaller, 75-seat version of the airliner, which has already gained 50 orders from Russian carrier S7 Group.

"Together with the size optimisation, it is planned to reduce the structural weight by between 10%-15%, improve aerodynamics up to 10%, reduce specific fuel consumption up to 5%, and increase the part of composition materials. The aim is also to cut operation and after-sales support costs," SCAC said in a statement.

SCAC is also developing a new SSJ100R model, which will replace much of the western equipment found on the current aircraft with Russian equivalents. This move has come about as a result of deteriorating relations between Moscow and western capitals, which may have raised concerns at the Russian manufacturer of supplies of western-supplied components becoming the subject of economic sanctions.

The aircraft is also being developed aerodynamically; in December 2017, it performed its first flight with 'saberlets', or pointed, extended wingtips that will improve take-off and landing performance, as well as cut fuel consumption by 3%.

And the aircraft is undergoing software 'tweaks' that will allow it to operate into small runways requiring steep approaches, such as London City Airport. ■



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Europe's business aviation showcase welcomed delegates and exhibitors from Africa when the EBACE show opened its doors in Geneva in May. Alan Peaford reports on the show highlights.

## AfBAA moves forward with a new chair and new plans

The African Business Aviation Association (AfBAA) was banging the drum for the growing sector in the region when the industry came together in Geneva.

With a stand at the centre of the EBACE show, AfBAA launched a new symposium, confirmed its expo and named a new chairman.

When Tarek Ragheb announced he was stepping down in December, he encouraged the association's board to look both within the organisation and outside for his successor. After five months of deliberations, Nick Fadugba was announced as chairman and JP Fourie as vice-chairman.

Fadugba has been well known as an advisor and consultant to the African aviation sector since he established African Aviation Services in 1990. He is a former elected secretary general of the African Airlines Association (AFRAA), and is the advisor to the Association of African Aviation Training Organisations (AATO).

He is planning on expanding the association's



Teamwork: AfBAA at EBACE: From left, Jane Stanbury, Dawit Lamma and Lorraine Moore.

reach and said: "AfBAA will now embrace both the business and general aviation industry throughout Africa, giving it a much wider and deeper footprint on the continent."

The association demonstrated this with the launch of the AfBAA Commercial General

Aviation Symposium (CGAS), which will take place in Nairobi on November 21-23 this year.

Focusing on flight operations in what is the turboprop hub of east Africa, the event will also discuss the operational needs of rotary aircraft, remotely piloted aerial systems, and business jets.

The variety of missions and the huge spectrum of aircraft serving the humanitarian, tourism, medevac, agricultural, and industrial sectors in east Africa, have defined the parallel-session format, according to AfBAA's events manager, Dawit Lamma.

AfBAA also announced the second edition of the AfBAA Conference and Expo, which will take place in early Q2 2019 in South Africa. "Last year's expo was met with such enthusiasm that we have chosen to make this a two-yearly event offering the market an opportunity to exchange information and update themselves on new regulations," said AfBAA CEO Rady Fahmy.

### EBACE IN BRIEF

#### BOMBARDIER LIFTS THE CURTAIN ON 'SECRET' JETS

In these days of fast social media, leaks and industry gossip, Rolls-Royce and Bombardier managed the impossible and unveiled a brand new certificated engine, for a new addition to the Bombardier Global family – and it remained a secret until the announcement in Geneva.

What made it even more surprising is that a test model of the new \$56 million Global 6500, fitted with the Rolls-Royce Pearl 15 engine, made it across the Atlantic and into the TAG hangar without a single camera-carrying enthusiast spotting the re-winged step up from the Global 6000.

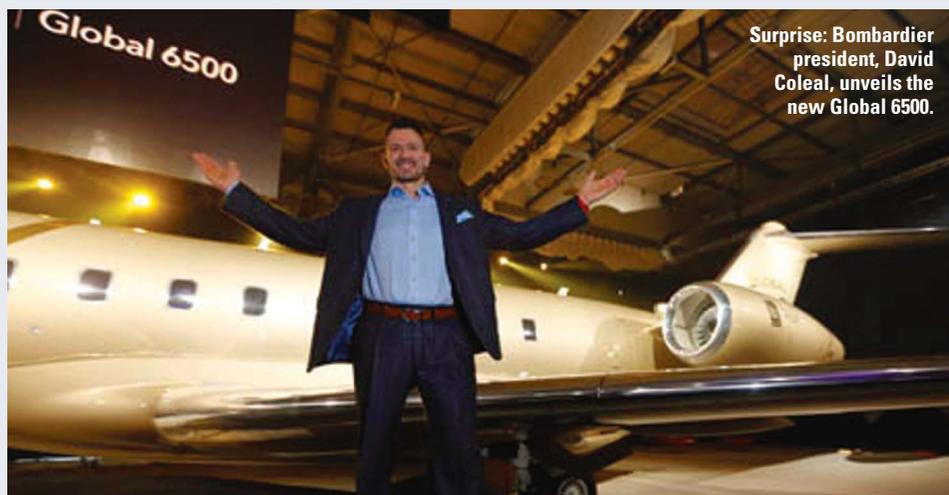


Bombardier also announced the Global 5500.

Boasting ranges of 5,700nm and 6,600nm respectively, the Global 5500 and 6500 exceed the promised range performance of each of their direct competitors.

They also become the first new business jets to feature a true combined vision system (CVS), with an infrared video image overlaid on a synthetic graphic. This is expected to allow the aircraft to complete landings in weather conditions that would be prohibitive for others.

The new Rolls-Royce engine brings 15,000lbs of thrust – increasing thrust from the earlier models – but also adds around a 13% fuel saving and a better hot-and-high performance, as well as additional range.



Surprise: Bombardier president, David Coleal, unveils the new Global 6500.

#### HondaJet gets boost

Honda Aerospace followed its automotive parent company tradition by bringing a major upgrade to his HondaJet HA140 – just 30 months after it entered service.

Traditionally aviation OEMs wait around five or six years before introducing upgrades, unlike the car industry.

The HondaJet Elite improves on take-off and landing performance, has a range increase of 231nm to 1,437nm and a host of cabin improvements.

A new noise-attenuating engine inlet is added to reduce vibration and sound inside the four-seat cabin; the sound is also improved with a speakerless system, which CEO, Michimasa Fujino, said is an industry first.

#### SHOW TRIBUTE TO SERGE DASSAULT

The 2018 EBACE was dedicated to the memory of Serge Dassault, the entrepreneur, politician and, of course, head of the Dassault Group and its Falcon jet family. Serge died on the eve of the show at his office in Paris aged 93. Tributes poured in from all over the world and a moment of silence was held at the show's official opening.



Embraer a livré son premier jet Phenom 300E (E pour Enhanced) à l'homme d'affaires sud-africain et un client de longue date John McCormick comme nous le montre Vincent Chappard.



## Le premier Phenom 300E livré en Afrique du Sud

**L**e nouveau jet d'affaires Phenom 300E a reçu sa certification FAA, EASA et de l'agence brésilienne de l'aviation civile (ANAC) en mars dernier.

Cette première livraison intervient cinq mois seulement après son lancement au dernier salon NBAA en octobre 2017. Le Phenom 300E bénéficie notamment d'un nouvel aménagement de cabine, de nouveaux sièges conçus et produits par Embraer Aero Seating Technologies avec des dossiers plus larges, des d'appui-têtes et repose-pieds rétractables. Il intègre également un nouveau CMS/IFE (Cabin Management System/InFlight Entertainments) haut de gamme fourni par Lufthansa Technik. Le Phenom 300E est motorisé par deux moteurs Pratt & Whitney

PW535E, avec un rayon d'action de 1 971 miles nautiques (3 650 kilomètres) et une capacité de six passagers.

Le Phenom 300E est l'avion le plus léger et le plus vendu par l'avionneur brésilien.

Depuis sa mise en service en 2009, plus de 400 avions ont été livrés dans plus de 40 pays. Selon Michael Amalfitano, PDG d'Embraer Executive Jets, la version Enhanced permettra « de renforcer l'attractivité de cet avion et de relancer les ventes dans un marché fragile et concurrentiel ». Ajoutant qu'il va apporter une véritable valeur ajoutée et « recueille déjà des avis positifs et enthousiastes des clients et du marché ».

Pour John McCormick, « le Phenom 300E est un avion

élégant et confortable qui correspond le mieux » à ses besoins de voyage en Afrique.

Embraer est toutefois tombé dans le rouge au premier trimestre 2018. Lors de la publication des résultats en avril dernier, l'avionneur brésilien a annoncé une perte nette de 12,3 millions de dollars par rapport à un bénéfice de 53,2 millions durant la même période en 2017.

Son carnet de commandes s'élève à 19,5 milliards de dollars. Embraer a livré 14 avions commerciaux (11 E175 et 3 E190) et 11 avions d'affaires dont le premier Legacy 450 à un client brésilien.

L'avionneur maintient ses prévisions pour 2018. ■

### SUMMARY

#### FIRST UPGRADED PHENOM 300E DELIVERED IN SOUTH AFRICA

Brazilian airframer Embraer has delivered its first Phenom 300E business jet to the South African businessman – and a long-time customer – John McCormick.

Having received Federal Aviation Administration (FAA), European Aviation Safety Agency (EASA) and Brazilian Civil Aviation Agency (ANAC) certification in March this year, this first delivery comes just five months after the aircraft's launch at the National Business Aviation Association (NBAA) show in October.

The Phenom 300E – short for enhanced – features a redesigned cabin with improved seating, more detailing and retractable headrests and footrests designed by Embraer Aero Seating Technologies in Titusville, Florida.

The cabin also has a high-end in-flight entertainment and cabin management system supplied by Lufthansa Technik.

The Phenom 300E is powered by two Pratt & Whitney PW535E engines, giving it a range of 1,971 nautical miles (3,650km) and a capacity of six passengers.

It is the lightest and best-selling aircraft produced by the Brazilian aircraft maker. Since it was commissioned in 2009, more than 400 Phenoms have been delivered in more than 40 countries around the globe.

According to Michael Amalfitano, CEO of Embraer Executive

Jets, the enhanced version will "increase the attractiveness of this aircraft and boost sales in a fragile and competitive market". He added that it would bring real added value and was already gathering positive and enthusiastic customer and market feedback.

John McCormick praises the Phenom 300E as "an elegant and comfortable aircraft that best fits my travel needs around Africa".

Despite the difficult financial climate last year, the company has a manufacturing backlog of \$19.5 billion. This year, Embraer delivered 14 commercial aircraft (11 short-haul single-aisle E175s and three E190s) and 11 business aircraft, including the first Legacy 450 to a Brazilian customer. The company is confident of maintaining its current forecasts for 2018.

The airframer will shortly deliver its first Legacy 450s and 500s with a reduced cabin altitude of 5,800ft – 200ft lower than their predecessors – when flying at an altitude of 45,000ft. The midsize pair will also feature restyled passenger seats as standard.

An upgraded version of the entry-level Phenom 100 also was introduced in April 2017, featuring a Garmin G3000 touch-screen flight-deck and higher-thrust Pratt & Whitney Canada PW617F1-E turboprops.



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*Caverton Helicopters Limited has unveiled what it calls a fleet of "11 new Bell 407 and 412 helicopters". Jon Lake reports.*

## Caverton rings up eleven new Bells



The Bell 412EP is the current production version of the helicopter.

**C**averton Helicopters Ltd is a subsidiary of Caverton Offshore Support Group Plc, which offers marine and aviation logistics support for the oil and gas industry along the west African continental shelf.

The group employs more than 700 people in Nigeria.

The recent 'unveiling' of 11 new helicopters comes after last year's award of a five-year logistics support contract by Chevron Nigeria Limited (CNL), operator of the Nigerian National Petroleum Corporation /Chevron Nigeria Limited joint venture (NNPC/CNL JV).

The contract covers the provision of aviation services and has a two-year renewable option.

Caverton Helicopters operates out of a 10,000sqm flight facility at the Murtala Muhammad International Airport in Lagos and several purpose-built facilities in Victoria Island (the Ozumba Heliport), Port Harcourt (Nigerian Air Force Base), Warri (close to the NNPC/CNL JV headquarters at Escravos), and Cameroon.

Its fleet includes the Airbus H125 (AS350) AStar, the AgustaWestland AW139, the Sikorsky S-76C++, and fixed-wing de Havilland Canada DHC-6-300 and -400 Twin Otters.

The new helicopters, purchased to support the NNPC/CNL JV, included eight Bell 407GXPs, ordered in August 2017, and four Bell 412EPs, though the final 412 had not been delivered at the time of the formal unveiling.

Captain Josiah Choms, MD Caverton Helicopters, said the contract had called for seven 407s, but explained his company had purchased eight in order to be able to provide a "world-class service".

Caverton also signed a support services agreement for the newly purchased Bell 407GXPs. This will be provided under Bell Helicopter's proprietary support solution, the customer advantage plan.

The original Bell 407 was a derivative of the tried and trusted Bell 206L-4 LongRanger, a stretched variant of the

Model 206 JetRanger. It was fitted with a four-bladed main rotor with a composite hub originally developed for the US Army's OH-58D Kiowa Warrior.

Steve Suttles, Bell Helicopter vice president of sales for the Middle East and Africa, explained that the Bell 407 was particularly well suited to African requirements, with its versatility making it popular in the corporate transport sector, and with real potential as a light-attack helicopter across the continent.

David Sale, MD for the Middle East and Africa region added: "With nearly 1,400 Bell 407s in operation around the world, the aircraft continues to be a success in global markets with sales steadily growing in Africa."

The Bell 407GXP, launched in 2015, is powered by a Rolls-Royce M250-C47E/4 engine with dual-channel full authority digital engine control (FADEC), providing an additional 50lbs (22.5 kg) of payload capability, improved fuel economy and class-leading hot and high performance.

The new variant has a 500-hour extension in time between overhauls (TBO), reducing maintenance costs. It incorporates new avionics, a hover performance calculator and features a cabin that is configurable for an array of missions and payloads, with new executive interior options.

□□□□□

The Bell 412 is a twin-engined utility helicopter derived from the military UH-1 Huey family via the Bell 212, but with a composite four-bladed main rotor in place of the 212 and Huey's two-bladed rotor system. The 412's wide-opening 7.7ft doors allow direct loading by forklift into the spacious (220cuft) cabin, which can be configured in a variety of ways to accommodate up to 14 passengers.

The Bell 412EP is the current production version of the helicopter, with enhanced performance thanks to its P&WC PT6T-3DF engines and dual digital automatic flight control system.

Remi Makanjuola, chairman of the Caverton Offshore Support Group, said that the addition of these helicopters will make Caverton Helicopters one of the largest operators of Bell aircraft in sub-Saharan Africa. They will be used for offshore logistics support, maritime and coastal surveillance, emergency medical services and search and rescue.

Caverton has made great efforts to transfer skills to an indigenous workforce over an eight-year period, in line with Nigeria's national content policy, and has trained locals and promoted them to senior technical and management positions.

To diversify its business activities, the company is building a maintenance, repair and overhaul (MRO) facility in Lagos, which will be operational by 2019.

"Once completed, all of the helicopters in our fleet, as well as aircraft from third-party operators, will be maintained in the country, thus saving time and foreign exchange," Makanjuola said. ■

**"The aircraft continues to be a success in global markets with sales steadily growing in Africa."**  
DAVID SALE

# MALAWI PRESIDENT'S AIR AMBULANCE PROMISE

Malawian President, Peter Mutharika, used his new year message to promise a number of health sector projects. Among his pledges was a new air ambulance, writes **Jon Lake**.

Some reports have suggested that the air ambulance will belong to a new state-of-the-art military hospital that is to be built at the Malawi Defence Force (MDF) headquarters at Kamuzu Barracks in Lilongwe, close to the seat of government and the presidential residence.

Though the air ambulance was to be “funded by Malawians, flying for Malawians”, and though it was said to be intended to save the lives of ordinary people involved in road accidents and other emergencies, some believe that the new military hospital and the associated air ambulance may be intended more to serve the interests of Malawi’s elite.

The establishment of the new hospital was one of the recommendations of the commission of inquiry into the circumstances surrounding the death of the late President Bingu wa Mutharika (the current president’s older brother) in April 2012.



Medevac is a key promise for Malawi.

Justice Elton Singini said that referring the president to a public hospital had compromised his security and privacy, and recommended that a presidential medical facility should be established at the headquarters of the Malawi Defence Force in Lilongwe.

The commission may have felt that such a facility was necessary after a South African air ambulance was summoned to transport the “ailing” president for more acute care in

Johannesburg when he was, in fact, already dead. Some believed that this had been an attempt to conceal his death and manipulate the presidential succession process.

The new health programmes will also include the establishment of a new cancer treatment centre at Kamuzu Central Hospital (KCH) in Lilongwe. This will save costs by reducing the number of patients who have to be sent abroad for treatment by at least 50%. ■

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## PRESIDENT UPSET BY BUSINESS JET LEASING



Cyril Ramaphosa: expressed his displeasure.

With the South African Air Force's (SAAF) presidential and VVIP aircraft grounded, new president, Cyril Ramaphosa, was forced to use a privately owned aircraft, leased to the government by controversial businessman Zunaïd Moti, for a trip to Botswana, writes Jon Lake.

Moti was listed as an international fugitive by Interpol and is fighting an international arrest warrant.

This was not the first time that Ramaphosa had been

embarrassed by having to fly on a chartered aircraft with a controversial owner.

In 2015, as deputy president, he travelled to Japan on a jet owned by the Gupta brothers.

VIP air transport was already a contentious subject in South Africa, with the cash-strapped department of defence having overspent on flights by R22.5 million (\$1.76m) since 2015. It spent more than R61 million on VVIP flights in the 2016-17 financial year; the budget was R26.8 million.

A proposed R4 billion (\$315m) programme to acquire a new presidential aircraft was launched in 2015, with a requirement for an aircraft that could carry at least 30 passengers to Moscow or New York without landing to refuel.

It is now understood to be on hold amid controversy over its price and the effect it could have on higher-priority air force spending programmes.



The unserviceability of the existing government VVIP aircraft fleet and constrained SAAF operating budgets have led to an increasing use of aircraft leased through ExecuJet and National Airways Corporation (NAC) by the president and senior politicians, to Ramaphosa's evident disapproval.

When he flew to Botswana, Inkwazi, the Boeing 737-7ED (BBJ) presidential jet, operated by the SAAF's 21 Squadron, was undergoing maintenance and had not flown since August, while the squadron's Falcon 900B, which Ramaphosa had frequently used when he was deputy president, was also grounded.

His spokesperson, Khusela Diko, said that Ramaphosa "had expressed his displeasure with the privately-owned aircraft leased in execution of his duties as head of state". Furious that the owners of leased aircraft had not been properly vetted to avoid potential embarrassment, Ramaphosa was also concerned about the cost of leasing private aircraft by the defence force, and about the impact on SAAF pilots' flight time. ■

## ZIMBABWE LOOKS TO ULAN UDE FOR NEW VIP HELICOPTER

A high-level delegation from the Republic of Zimbabwe visited the Ulan-Ude Aviation Factory, a subsidiary of the Russian Helicopters holding company, in March, writes Jon Lake.

The Zimbabweans were inspecting the latest VVIP variant of the Mi-171E. Variants of the Mi-8MT, Mi-17, Mi-171 and Mi-172 are currently being manufactured by two competing factories – Ulan Ude in the Republic of Buryatia (Siberia) and the Kazan Helicopters Joint Stock Company plant in the Republic of Tatarstan.

The Air Force of Zimbabwe (AFZ) already operates a single Kazan-built Mi-172, a civil passenger version based on the Mi-8MTV-3, with under-nose radar and enlarged rectangular windows.

The aircraft was delivered in March 2008 and is operated in the VIP/VVIP role, wearing a smart white

and blue colour scheme. It serves alongside one or two Airbus Helicopters AS532 Cougar helicopters, delivered from 1995.

It is believed that Zimbabwe hopes to replace these aircraft with new Mi-171Es, though the AFZ is struggling to manage its operations within a tightly constrained budget.



Last year, Air Vice Marshal Jacob Nzvede told his country's parliamentary portfolio committee on defence and home affairs that the AFZ had \$75.1 million of debt and needed \$3.5 million to maintain its ageing helicopter fleet.

The Mil Mi-171E is powered by a pair of 1,750shp

Klimov VK-2500-03 engines. The VK-2500-03 is a civilian version of the engines installed on the Mi-28 'Havoc' combat helicopter. It is optimised to operate in extreme temperatures, from -58° to 50° Celsius.

During their visit, the members of the Zimbabwean delegation were given a flight on board the VVIP version of the Mi-171E, and toured the production facilities. They were acquainted with the likely terms and conditions of any supply contract and with the post-sales maintenance programme.

Various Russian helicopters (including the Mi-8T and Mi-172 'Hip' and Mi-24/35 'Hind') have been delivered to the AFZ and have proved to be reliable and easy to fly and to operate, even in the country's tropical climate. The Mi-172 is based alongside about six Mi-35s at Manyame Airbase near Harare. ■



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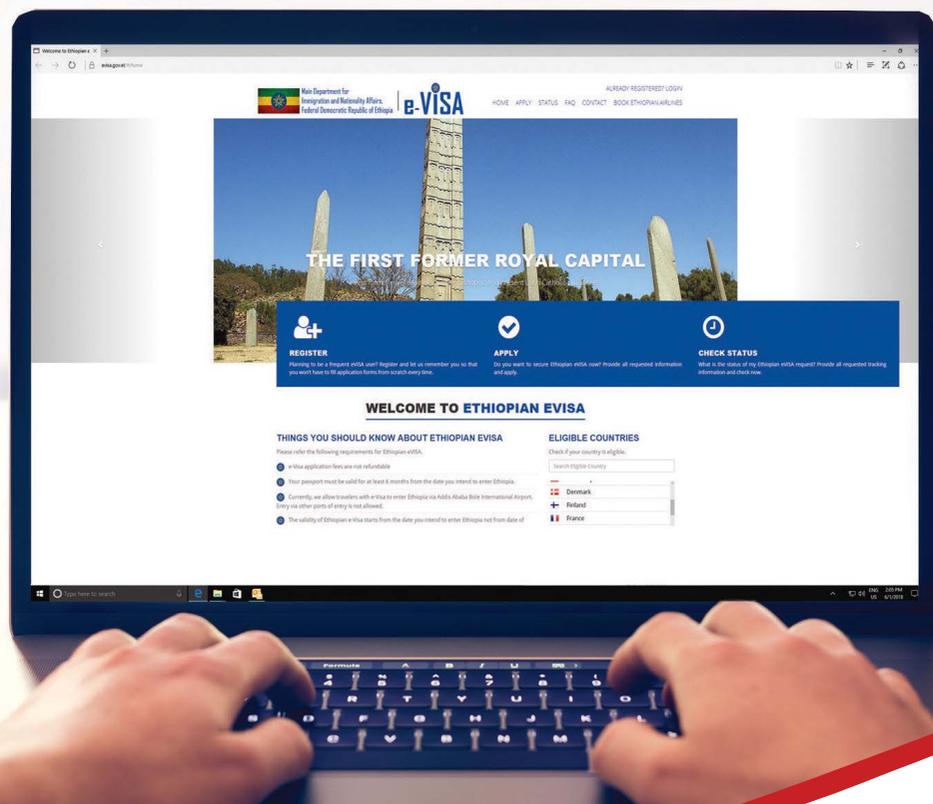


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THE NEW SPIRIT OF AFRICA

A STAR ALLIANCE MEMBER 

*Bongani Maseko, new chairman of the Airports Council International (ACI), believes that, despite challenges, African aviation is becoming a strong contributor to global economic growth. Anuradha Deenapanray and Vincent Chappard report.*

# Support our industry call from new ACI boss

**B**ongani Maseko is fully committed to ensuring that all member airports perform well in terms of operational efficiencies, which ultimately contribute to the value chain, providing a smooth end-to-end passenger experience.

He believes airports are increasingly relevant in a globalised environment and that African airports have played, and will continue to play, a pivotal role in the global arena.

In this new era, where there is increased risk of economic nationalism and inward-looking policies, and with the continuous and evolving security threat facing the aviation industry, he says airports must address mounting political pressures, pervasive economic uncertainty, plus downside investment risks.

“In spite of this, we must never forget that our industry is, first and foremost, a model of global sustainability,” he said. “Airports have always adapted to new circumstances and have evolved to fulfil the needs of the communities they serve. However, our industry cannot sustain its positive contribution to the global economy without being adequately equipped and supported.”

In 2016, passenger traffic in Africa decreased by 0.4%, while it increased by 6.5% worldwide.

According to Maseko, African airports in general have not grown significantly over recent years compared to other regions. “Failure to liberalise in Africa has meant that it has not benefitted in the same way as other regions from the growth of low-cost carriers and access to the Chinese and Indian markets,” he stressed.



Furthermore, northern African countries have experienced significant security concerns and the poor connectivity of several African countries has been detrimental to increasing the travel demand.

Last year’s figures show some “hopeful trends”, he said. “We expect passenger traffic growth in the region of 5.7% during the first 11 months of the year and cargo traffic growth above 14%.”

For this to be sustained, and in an economic climate where states are increasingly cutting expenditure, government financing and ownership of airports is not always a viable and sustainable option – particularly in instances where a significant outlay is required to finance much-needed infrastructure.

Maseko calls for more private-sector participation to help capital flow to the airport industry.

Access to private equity is still very low in Africa compared to other regions. According to the latest ACI data, airports with private investment account for only 11% of total traffic.

“The potential for value creation and market innovation materialises only in circumstances where airport operators are as free to grow as any other enterprises, benefiting from a clear regulatory

Continued  
on Page 64



“Our industry cannot sustain its positive contribution to the global economy without being adequately equipped and supported.”

BONGANI MASEKO

CONTINUED FROM PAGE 63

system, a streamlined governance that can reduce the level of dispute and a transport policy that equips the sector with a long-term strategy to boost the economy by incentivising the growth of the sector,” said Maseko.

Funding infrastructure development is another important issue, especially for small airports without sufficient traffic to drive down costs and achieve economies of scale or to generate significant aeronautical revenue or commercial opportunities.

Government subsidies or grants help to cover the shortfall or deficits. In some cases, profitable airports cross-subsidise or compensate net losses of smaller airports through the airport network model.

Nearly half of the world’s airports belong to networks and handle annual traffic of 2.9 billion passengers, representing 38% of global passenger traffic.

In Africa, 89% of airports belong to networks, providing for 78% of the regional share of traffic.

Workforce development, talent management and retention of well-trained staff, are also major concerns for airports.



Governments and industry also remain challenged with the current global security climate and repeated terrorist threats and attacks. Safety and security is of critical importance to the aviation industry.

“Security culture is one of the top priorities globally at the International Civil Aviation Organization (ICAO), through all countries and aviation stakeholders. Engendering a good security culture is not something that can simply be taught; it requires buy-in from senior management and a commitment to considering security in all aspects of operations,” pointed out Maseko.

Elements of security culture include regular communication with staff, strong policies, rewards for good performance, robust monitoring of performance, and staff empowerment.

Globally, 56% of airport revenue come from aeronautical charges. But non-aeronautical revenue has become a vital source of income for airports, now making up around 40%.

The picture is quite different in Africa, where 70% of airport revenue comes from aeronautical activities, and only 26% from commercial activities. This is due mainly to airport size and the fact that commercial activities have not been developed to their full potential.

Like airports worldwide, those in Africa are also seeking to reduce their environmental impact. Maseko thinks they do not need much investment to become ‘greener’. Simple initiatives can reduce consumption in new infrastructure development projects.

Bold measures and leadership are necessary as “the next 20 years will see most growth in passenger numbers coming from Africa”, he concluded. ■

## SOMMAIRE

# BONGANI MASEKO PLAIDE POUR UNE INDUSTRIE SOLIDE ET SOUTENUE

*Bongani Maseko, a pris les rênes du conseil d'administration d'ACI en octobre dernier. Selon lui malgré les difficultés, l'aviation africaine contribuera fortement à la croissance économique mondiale. Sa vision et son analyse avec Anuradha Deenapanray et Vincent Chappard.*

**Bongani Maseko est pleinement engagé pour que tous les aéroports membres d'ACI soient performants en termes de stratégie de développement, d'efficacité opérationnelle, de sécurité, de service et de choix environnemental.**

**Les aéroports africains ont joué et continueront à jouer un rôle central sur le plan international. Il faut cependant un changement de perception du business pour permettre aux aéroports d'être davantage des entreprises commerciales. C'est un moyen d'améliorer la rentabilité des infrastructures, d'optimiser les ressources et générer des bénéfices pour assurer la pérennité du business.**

### ■ UN MODÈLE GLOBAL DURABLE

**Dans cette nouvelle ère où il y a des risques accrus de nationalisme économique et des politiques protectionnistes, et la menace continue de la sécurité à laquelle est confrontée l'industrie, les aéroports doivent répondre à la montée des pressions politiques et à l'incertitude économique, et réduire les risques d'investissement.**

**« Malgré cela, nous devons nous rappeler que notre industrie est avant tout un modèle global durable. Les aéroports se sont toujours adaptés aux nouvelles conjonctures et ont évolué pour répondre aux besoins des communautés. Toutefois, notre industrie ne pourra pas pérenniser sa contribution positive à l'économie mondiale sans être adéquatement équipée et soutenue », soutient Bongani Maseko.**

### ■ LES DÉFIS DES AÉROPORTS AFRICAINS

**En 2016, le trafic passager dans la région a baissé de 0,4% alors qu'il a augmenté de 6,5% dans le monde.**

**Selon Maseko, dans l'ensemble les aéroports africains n'ont pas connu de croissance significative au cours des dernières années par rapport à d'autres régions. « Par manque de libéralisation, l'Afrique n'a pas profité de la même manière que d'autres régions du développement des courriers low-cost de même que l'accès aux marchés chinois et indien. »**

**De plus, les pays d'Afrique du Nord ont connu des problèmes de sécurité majeurs et la faible connectivité de plusieurs pays africains a impacté négativement le marché du voyage.**

**Les chiffres de 2017 pour la région montrent cependant « une tendance positive et nous prévoyons une croissance de 5,7% du trafic passager au cours des 11 premiers mois de l'année et de plus de 14% du trafic de fret ».**

**Pour maintenir cette croissance surtout dans un contexte économique où les États coupent davantage les dépenses, le financement gouvernemental et le fait que l'Etat soit propriétaire des plateformes aéroportuaires ne**

**sont pas toujours une option viable et durable, en particulier pour financer les infrastructures indispensables.**

**Bongani Maseko appelle ainsi à une plus grande participation du secteur privé pour permettre un flux des capitaux vers l'industrie.**

**Selon les données récentes d'ACI, les aéroports à capitaux privés ne représentent que 11% du trafic.**

### ■ PARTENARIAT PUBLIC/PRIVÉ

**Maseko appelle ainsi à une plus grande participation du secteur privé pour permettre un flux des capitaux vers l'industrie.**

**L'accès au private equity reste très faible en Afrique par rapport aux autres régions. Selon les données récentes d'ACI, les aéroports à capitaux privés ne représentent que 11% du trafic.**

**« Le potentiel pour augmenter la valeur ajoutée et assurer l'innovation ne peut être développé seulement quand les opérateurs aéroportuaires ont la liberté de croître comme toute autre entreprise en profitant d'un cadre réglementaire bien défini, une bonne gouvernance et une politique de transport dotant le secteur d'une stratégie à long terme pour accorder des incitations et revigorer l'économie. »**

### ■ DÉVELOPPEMENT DES RÉSEAUX

**Le financement des infrastructures est une question essentielle surtout pour les petits aéroports dépourvus de trafic suffisants pour réduire les coûts et générer les revenus ou les opportunités commerciales.**

**Les aides ou subventions publiques permettent de couvrir les déficits. Dans certains cas, les aéroports rentables subventionnent ou compensent les pertes nettes des petits aéroports grâce au modèle de réseau aéroportuaire.**

**Environ la moitié des aéroports du monde font partie de réseaux traitant un trafic annuel de 2,9 milliards de passagers, soit 38% du trafic mondial.**

**En Afrique, 89% des aéroports appartiennent à des réseaux, fournissant 78% de la part régionale du trafic.**

### ■ SÉCURITÉ ET SÛRETÉ

**« La culture de sécurité est l'une des grandes priorités pour ACI tout comme pour l'ICAO et les partenaires de l'industrie. Engendrer une culture de bonne sécurité n'est pas un processus simple ; cela requiert l'engagement du management pour que la sécurité soit prioritaire à travers les opérations », souligne Bongani Maseko.**

**Des mesures et un leadership audacieux sont indispensables car « durant les 20 prochaines années, la plus grande croissance en nombre de passagers viendra de l'Afrique ».** ■

*Business transformation for sustainable development of African airports was the theme of the 59th Airports Council International (ACI) Africa board meeting and regional conference in Lagos, Nigeria. Chukwu Emeke reports.*



## TIME TO CHANGE THE FLIGHTPATH

**N**ew strategies must evolve for sustainable development of African airports to continue happening. So said Boss Mustapha, secretary to the Federal Government of Nigeria, in his opening remarks to the ACI Africa regional conference.

Mustapha called for new strategies to include holistic planning for defined development targets, plus effective and efficient financial planning and successful implementation.

More than 350 delegates from 42 African countries attended the conference, which served as a platform to exchange ideas and share experiences on challenges, new trends and approaches towards sustainable airport development.

Dr Olumuyiwa Aliu, president of the International Civil Aviation Organisation (ICAO), noted that revenues raised via passenger charges and taxes were often significantly outweighed by what a state lost to its broad-based economy, largely as a result of the dampened demand for air travel and air cargo shipments caused by the charges.

"It is, therefore, important to seek to complement aeronautical charges with a variety of non-aeronautical revenues," he stressed.

Aliu said rapidly expanding air traffic could only be sustained and optimised through the continued development and modernisation of local aviation infrastructure, particularly at airports.

He identified other concerns for African airports as the risk associated with a lack of sufficient institutional, legal and regulatory enabling frameworks in many countries, which made it difficult for financial institutions to invest in airport projects.

And he added that the slow implementation of the Yamoussoukro Decision (YD) had, for many years, limited the number of flights many African airports were managing. It was making the financing situation precarious for many airports as a result of low utilisation levels and poor returns on investment.

On a more positive note, he pointed out the higher expectation from most African hub airports to exceed their capacity by 2020 due to an increased focus on air transport liberalisation. "However, this situation has opened new set of attendant challenges relating to the safety and efficiency of operations."

He urged countries to deliver tremendous support to airport operators looking for investments by taking pragmatic measures to realise transparent, stable and predictable regulatory climates, whether for direct investment, business reform, private finance initiatives, or public-private partnerships (PPP). "No investor wants to project out their proposed returns based on one eventuality, only to see those goalposts being moved by a government halfway through a project after they have made their financial commitment," he said.

ACI Africa president, Engineer Saleh Dunoma, said the objective of the conference was to seek ways to achieve the goal of transforming Africa's airports into viable, sustainable business entities."



For session after session, delegates shared ideas on the importance of new approaches to airport business across the continent. Strategies for encouraging PPPs to improve existing services or create new revenue facilities and resources were emphasised; innovations in airport retail was highlighted as one such measure.

About 75 million passengers travelled through Africa in 2017, 55 million of them internationally. This presents huge opportunities for duty-free airport revenue generation channels. Tax-free shopping as a revenue source is one of the best supports for airport sustainability but is being threatened at some airports by regulations such as a ban on cigarettes, alcohol, etc.

Delegates agreed that today's modern airport challenges cannot be solved by the old management methods supported by yesterday's technology.

Business transformation could not be accomplished with outdated platforms, aging IT systems and expensive error-prone manual processes, as managers needed the next generation of technologies to transform airports and respond effectively to regulatory and commercial imperatives of the future.

"We need to continue to invest in technology and we need finance to invest in information," said Bongani Maseko, chief executive officer, Airports Company South Africa.

ACI Africa secretary general, Ali Tounsi, used the occasion to highlight the African airports development programme, created by the organisation, to help member airports improve and meet the challenges of airport operations, while achieving excellence in management. ■

**Pictured from left: Angela Gittens, DG, ACI; Boss Mustapha, Secretary to Federal Government of Nigeria & Saleh Dunoma, President, ACI Africa Board.**

Under the patronage of H.H. Sheikh Ahmed bin Saeed Al Maktoum, President of the Dubai Civil Aviation Authority, Chairman of Dubai Airports, Chairman and Chief Executive of Emirates Airline and Group

## 3 EVENTS TO INSPIRE CHANGE IN THE MIDDLE EAST AVIATION INDUSTRY



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*The Zambia Airports Corporation Limited (ZACL) has made progress in upgrading infrastructure at Kenneth Kaunda International Airport as the country prepares to revive the national airline. Humphrey Nkonde reports.*

## Lusaka airport takes shape as passenger numbers soar

Construction work at Kenneth Kaunda International Airport in Lusaka is currently reported to be about 70% complete.

It is being carried out by the China Jiangxi Corporation for International and Technical Cooperation, which signed a contract with ZACL on September 5, 2015.

ZACL is mandated to construct international airports and improve existing ones throughout Zambia. The \$360 million for the current work has jointly been financed by the Zambian Government and China's Export and Import (EXIM) Bank.

Key improvements include construction of a four million-capacity international passenger terminal building with six aero bridges and a fire and rescue station.

Other work includes an in-transit hotel, an air traffic control tower, a standalone presidential pavilion, a cargo terminal and a commercial complex.

The commercial complex will have a shopping mall and airport office park.

Non-aeronautical infrastructure, including the hotel and shopping mall, have been included in the work to diversify ZACL's income generation away from aeronautical services.

At the moment, both local and international passengers use the common terminal building, which also houses the ZACL offices and the VIP lounge used by the president and other important people.

Once the international terminal building is complete, the common terminal would be used exclusively by domestic passengers.

ZACL communications and brand manager, Mweembe Sikaulu, said overall work was about 70% complete.

In a breakdown, she explained the new terminal building was 77% complete, the hotel was 67% finished and the air traffic control tower was 86% finalised.

She added that the presidential pavilion was 78% complete, the cargo terminal 85% done and the commercial complex was at 45%.

The only part of the airport improvement that is 100% finished is the fire and rescue station.

The work, which began on April 21, 2015, is expected to be completed in October next year.

Improvements at Kenneth Kaunda International Airport, named after Zambia's first president, are being made as the southern African country plans to revive its national airline, which was liquidated in 1994.

Early this year, the Government signed a shareholder agreement with Ethiopian Airlines to revive the national airline.

Ethiopian Airlines would have a 55% stake, while 45% would be retained by the government.



Meanwhile, Zambian airports recorded a positive growth in the first quarter of 2017, with 456,821 general passenger movements, according to ZACL.

"Passenger numbers increased by a staggering 10.9% when compared to the same quarter in 2016," Sikaulu said.

She added that 82,524 domestic passengers passed through the designated airports, signifying a substantial growth spurt of 23.1% from 67,028 in 2016.

"Equally, international passenger movements grew by 8.6%, from 344,783 passengers in the fourth quarter of 2016 to 374,297 passengers in the fourth quarter of 2017," she said.

One notable factor that contributed to the increase was the commencement of domestic flights by the newly established Mahogany Air.

Another factor was that Proflight Zambia increased frequencies between the capital, Lusaka, and Ndola on the Copperbelt, from three to four flights on selected days.

There was also a remarkable use of Zambia for meetings, incentives, conferences and exhibitions.

"A stable currency boosted confidence in the merchandise trading market with China and Dubai," Sikaulu said, pointing to another factor that contributed to passenger growth in 2017.

However, ZACL will need to work hard to attract more international airlines, given that the new international passenger will have a four million passenger capacity. ■

The work is expected to be completed in October next year.



# COMBATTRE LE TRAFIC

*ROUTES travaille en étroite collaboration avec l'IATA et l'industrie du transport aérien pour conscientiser et combattre le trafic de la faune en Afrique et en Asie. Un reportage d'Anuradha Deenapray.*

**C**e trafic illégal, qui représente entre 7 et 21 milliards de dollars par an, est devenu « l'une des formes de crime les plus répandues au niveau mondial » selon le wildlife trade monitoring network, TRAFFIC, un programme commun entre la World Wide Fund for nature (WWF) et l'International Union for Conservation of Nature (IUCN).

Il concerne environ 7000 espèces. Durant les dix dernières années plus de 130 aéroports ont été confrontés à ces pratiques illégales.

Ces dernières années, le trafic et le braconnage ont atteint des records en Afrique. Les espèces les plus menacées sont les pangolins, les rhinocéros, les éléphants et les tigres.

En 2016, plus de 5000 kg d'ivoire furent saisis dans les aéroports, équivalant à la disparition de deux éléphants par jour. En mars 2017 uniquement, 180 kg de cornes de rhinocéros (représentant 60) ont été saisis. Un million de pangolins ont été braconnés durant la dernière décennie pour leur écaille.

Selon TRAFFIC, « la majorité des produits provient d'Afrique et alimente les marchés asiatiques ». Des campagnes ont ainsi été élaborées pour informer les populations en Chine, au Vietnam et dans d'autres marchés asiatiques.



Les espèces les plus menacées sont les pangolins (ci-dessus), les rhinocéros, les éléphants et les tigres.



## SUMMARY

### ROUTES AND IATA COMBAT THE TRAFFICKING OF WILDLIFE

According to the wildlife trade monitoring network TRAFFIC – a joint programme of the World Wide Fund for Nature (WWF) and the International Union for Conservation of Nature (IUCN) – wildlife trafficking has become one of the most prominent forms of international crime.

It is estimated to be worth between \$7 billion and \$21 billion annually and concerns about 7,000 species.

In the past decade, airports in more than 130 countries have experienced incidents of wildlife trafficking. The most endangered species are pangolins, rhinos, elephants and tigers.

In 2016, more than 5,000kg of ivory was seized at airports, equivalent to the disappearance of two elephants per day. In March 2017, 180kg of rhinoceros horn (representing 60 animals) was seized.

One million pangolins have also been poached

during the last decade for their scales.

According to TRAFFIC: "The majority of wildlife products from Africa are smuggled into Asian markets."

Campaigns have been developed to inform people in China, Vietnam and other Asian markets, with TRAFFIC running numerous social and behavioural consumer communications initiatives.

The United States Agency for International Development (USAID) partnership aimed at reducing opportunities of unlawful transport of endangered species (ROUTES), led by TRAFFIC, has intensified its training and awareness campaigns with airlines.

This year LAM Mozambique Airlines and Kenya Airways worked with ROUTES to deliver training workshops for cabin crew, ground-handlers, cargo processors, and other regional airport staff.

Airport staff in Mozambique and Kenya have

joined others in South Africa, Singapore, and Malaysia as being some of the first to receive comprehensive training from ROUTES on preventing wildlife trafficking through the air transport sector.

In addition, ROUTES recently released 'flying under the radar', the most comprehensive assessment of wildlife trafficking in the air transport sector to date.

IATA is an essential partner (representing 280 companies and 83% of global traffic) in this international fight, particularly helping to strengthen agreements, protocols and programmes in the sector. As such, it has just launched a new certification programme – CEIV Live Animals – which, according to Nick Careen, senior VP of airport, passenger, cargo and security, "will provide a reliable quality benchmark".

# ILLÉGAL DE LA FAUNE

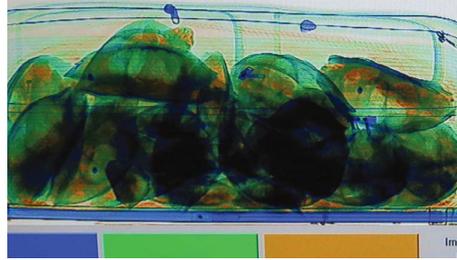
« La surveillance doit être soutenue car les trafiquants changent leurs méthodes et leurs stratégies face aux actions menées pour maintenir leur business. » Ils profitent aussi de l'interconnexion et des nouvelles technologies.

D'où, l'importance du partenariat USAID ROUTES (Reducing Opportunities of Unlawful Transport of Endangered Species), piloté par TRAFFIC, et qui intensifie ses campagnes de formation et de conscientisation auprès des compagnies aériennes.



Le personnel de Kenya Airways, de LAM Mozambique, de South African Airways, ainsi que des aéroports de Singapour et de la Malaisie a récemment bénéficié d'une formation sur cette problématique mondiale.

Par ailleurs, ROUTES vient de mettre en service le Flying Under the Radar pour jauger ce trafic dans le secteur du transport aérien avec une efficacité optimale.



Les tortues noires menacées par le trafic et le braconnage.

L'IATA est un acteur indispensable (représentant 280 compagnies et 83% du trafic global) dans cette lutte internationale notamment pour renforcer les accords, les protocoles et les programmes dans le secteur.

A ce titre, elle vient de lancer un nouveau programme de certification, le CEIV Live Animals, qui selon Nick Careen, Senior VP Airport, Passenger, Cargo and Security, « fournira un benchmark efficace ». Il ajoute que ce programme va améliorer le niveau des

compétences, les opérations, la gestion tout renforçant la formation et les normes sur toute la chaîne.

Le programme souligne également la nécessité de respecter les exigences de CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). L'accord a été signé par 182 états et l'Union européenne, et concerne le commerce de plus de 36 000 espèces animale et végétale.

Ce combat est intimement lié aux initiatives pour un développement durable en Afrique et ailleurs. Ainsi, les Nations unies (l'ONU) ont récemment inscrit la faune et la flore à l'agenda des Sustainable Development Goals visant à « prendre des actions urgentes pour mettre fin au braconnage et au trafic des espèces protégées, et pour adresser les problèmes de l'offre et de la demande ».

Alors que ce trafic devient de plus en plus organisé, une coopération internationale y compris dans le transport aérien est indispensable pour sauver notre biodiversité. ■



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Almost 1,000 delegates from 56 countries converged on Cairo for the third Aviation Africa Summit and Exhibition. Alan Peaford reflects on the impact of the event, which also featured 118 exhibitors and involved 42 airlines.

# AVIATION NEEDS ITS HEART TO BE STRONG

**S**ecurity, the single African air transport market (SAATM), service support, airline strategy and aviation finance were among the key discussion points at the Aviation Africa summit, held under the auspices of Egypt's Civil Aviation Minister, Sherif Fathi, in association with EgyptAir.

Air traffic for Africa's carriers is forecast to grow 5.9% annually over the next 20 years, which is above the world average, and keynote speakers called for greater cooperation between governments and industry members to allow the continent to benefit from this growth.

Addressing the theme 'How can aviation rise to the challenge of making the MENA region's beating heart stronger?', the International Air Transport Association's Adefunke Adeyemi said: "Cardiologists will tell you that the best way to protect your heart is to keep it beating strong all year long. Translated to aviation, it means that governments and regulators must let aviation do what it does best all the time and not just at certain periods."

Adeyemi echoed a call by African Airlines Association (AFRAA) secretary general, Abderrahmane Berthe, aiming to ensure that African countries do not lose momentum with the SAATM initiative, which will bring an equal playing ground for all African airlines.

But she went further, demanding countries don't just sign the agreement but implement it as well.

The summit host was one of the countries that are behind the agreement, but have not yet fully implemented it. "We commend Egypt for signing up to the SAATM," she said. "But it is important to stress here how important full implementation is to realising Egypt's full economic potential. We also urge other states to follow suit for their benefit and the overall benefit of the region. Protectionist policies are not beneficial and actually do more harm than good."

There was a clear message that sharing resources and collaboration will generally

**Governments and regulators must let aviation do what it does best all the time and not just at certain periods.**

ADEFUNKE ADEYEMI



boost aviation business across Africa. Maintenance, repair and overhaul (MRO) is one of those areas.

EgyptAir advisor to the chairman, Hisham Nasr, said Africa represents 4% of the global fleet of 25,368 aircraft and 3.9% of the global \$75.6 billion annual MRO expenditure. The continent needed investment in new technology and human development to be able to cater for the growing demand and staff retention was an important task, he added.

Richard Hass, head of Lufthansa Technik's MRO activity in Africa, agreed there are tremendous MRO opportunities. "We have so many customers in Africa. We want to grow our customer relationship from a supplier relationship to a higher level – first with increased cooperation and then, eventually, it could evolve into establishing joint venture companies."

Hass pointed out that Africa has a very diversified market, adding that MRO companies should adopt the demands of each country. He said that Africa is a big continent and logistics is one of the major problems facing his company there. According to him, customs clearance is another challenge and money repatriation from some African countries has become a

major issue due to the foreign currency crunch.

Another pressing concern through the event was cyber security. Top experts from the US and the UK shared the latest information on cyber attacks on aviation assets.

Brian Roos, from Satcom Direct, which says VIP jets are currently facing 10 aggressive cyber attacks a month, said that often executives assume they're safe. "Most are aware cyber security is an issue but bury their head about the aircraft. That's dangerous."

Airports have been one of the key targets of cyber criminals, or even governments, and Hany Yehia Eladawy, president of the African Civil Aviation Commission (AFCAC), called on governments to put infrastructure investment first.

"Investment in infrastructure accounts for more than half of the recent improvement in economic growth in Africa and has the potential to achieve even more," Eladawy said.

"Africa's airports have significant infrastructure needs that must be addressed in order to remain competitive in the global aviation system and support the African economies."

## Make a date for Rwanda

**Aviation Africa 2019 will take place at the Kigali Convention Center in Rwanda on February 27-28.**

**In conjunction with the Rwandan Government, the event will see heads-of-state, government ministers, civil aviation associations, and industry leaders attend.**

**An air chiefs' conference is also planned and a number of aircraft will be on display at the nearby Kigali International Airport. Further details can be found on [aviationafrica.aero](http://aviationafrica.aero)**

There's much hype around cyber threats, especially when it comes to high-profile national infrastructure like airlines, airports and air traffic control. To unravel that hype, **Victoria Moores** caught up with an expert in the field, PGI managing director cyber **Brian Lord**, who spent 21 years with the UK intelligence and security service GCHQ.

**W**hen there is tension between two states, cyber-attack threats against critical infrastructure are “attractive levers”, said cyber-security expert Brian Lord. This risks aviation becoming a ripe target for geo-political collateral damage.

The cyber threat to aviation comes from two obvious places; criminals seeking to exploit companies for their own gain and governments looking to apply political pressure against another nation.

But there is a third, higher-impact threat – ignorance.

The good news is that it is “unbelievably difficult” to technically disable an airline or airport for very long, but the reputational and public-confidence impact for national-infrastructure providers can be huge. For the aviation industry, a fairly minor data breach, with ill-informed media or social-media hype, can translate into disproportionate public concern about aircraft being hacked and passenger safety being put at risk.

Lord described airlines as a “highly emotive” part of the infrastructure that can be exposed and manipulated to play on innate public safety fears. “There will inevitably be dramatic exposés, deliberately aimed at creating panic – a tactic that will be regularly used,” he said.

□□□□□

Another area of concern is the risk that regulators will introduce draconian rules that deal with the perception, rather than the reality, of the cyber threat.

Lord said airlines should actively work with regulators to create sensible and proportionate rules and standards. “Don't wait to be regulated upon. Don't fight it, engage with it.”

“Once one airport is hit, no matter where, regardless of the reality, the regulators will go into overdrive. Stay ahead of the game.”

Lord insists that airlines must manage cybersecurity in the same way as any other business risk. “I'm not playing down the risk. I'm trying to clear the fog to proportionately manage the risk. There's a whole breadth of sales pitches, so people have no idea of what is good and bad.”

Lord said there is a straightforward maturity modelling process, built around

# THE CYBER LORD



“Don't wait to be regulated upon. Don't fight it, engage with it.”  
BRIAN LORD

international information-security control measures. Airlines can use this to assess their ability to protect themselves and know exactly where they need to invest to improve. Experts come in and assess a company's maturity to deal with a cyber threat in 14 areas, giving them marks in each area up to five. This process takes around 10 days for a mid-sized airport.

“Any organisation that says ‘we have to have a five in every area’ is overachieving – this is the equivalent of necessitating a strip search for passengers at physical-security checks,” Lord said. “You have to ask ‘what is our target score for each of the 14 measures.’ Some will be three, others will be five.”

The main way to manage the risk is simple. Train your people. “Human beings are invariably the route into organisations. Just about every major breach wouldn't have happened if an employee or system user had not inadvertently done something they shouldn't have done.”

## SOMMAIRE

### CONTENIR LA MENACE

Les cyber-attaques alimentent beaucoup les débats concernant les compagnies aériennes, les aéroports et le contrôle du trafic aérien. **Victoria Moores** a rencontré, **Brian Lord**, directeur général de PGI.

**Selon lui, les cyber-attaques contre des infrastructures stratégiques sont des « leviers attractifs » quand il existe des tensions entre deux états.**

**L'industrie du transport aérien peut ainsi devenir une cible pour les dommages collatéraux géopolitiques.**

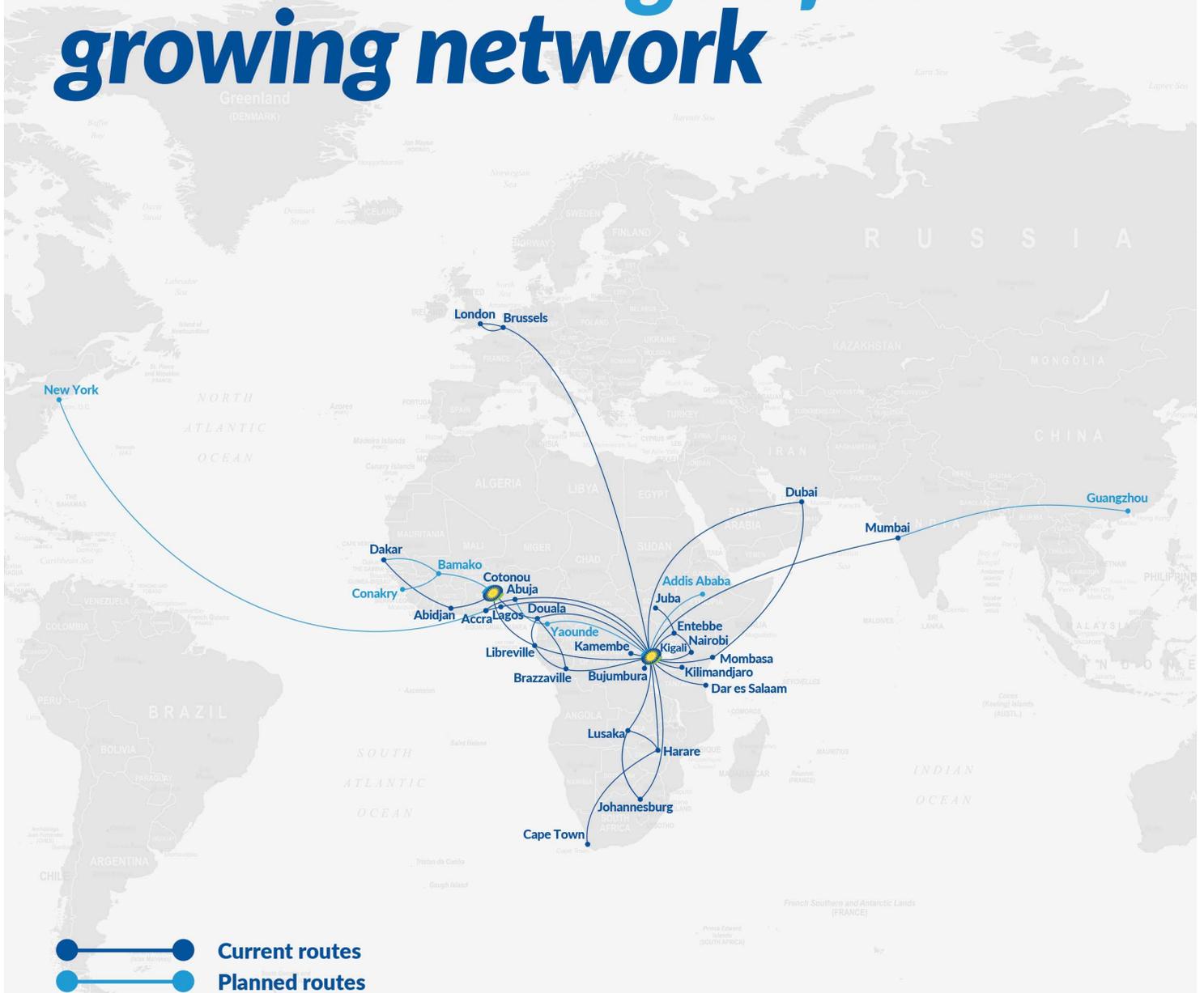
**Cela se manifeste souvent sous deux formes ; les criminels qui tirent profit des entreprises et les gouvernements qui tentent d'exercer une pression politique contre une autre nation. Mais il existe une troisième menace à plus fort impact : l'ignorance.**

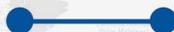
**Même si c'est « incroyablement difficile » de désactiver techniquement une compagnie aérienne ou un aéroport pendant très longtemps, cependant l'impact sur la réputation des fournisseurs et la confiance du public, peut être énorme.**

**Brian Lord décrit les compagnies aériennes comme un élément « hautement émotif » de l'infrastructure pouvant être manipulée pour menacer la sécurité publique. Cela pousse aussi les régulateurs à appliquer des règles draconiennes.**

**Brian Lord invite les compagnies aériennes à prendre les devants et de former leur personnel.**

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Marcelle Nethersole reports from the exhibition halls at Aviation Africa.



Amr Madi: "Egypt is getting to be a hub now."

## Fleet expansion for Alkan Air

Alkan Air has been offering air taxi and aircraft maintenance services from its hangar at Cairo International Airport since 1996 – and is the first provider of private air taxi services in the country.

The company is authorised for Beechcraft and Hawker type aircraft, as well as maintenance for the Gulfstream series, but is expanding its fleet due to demand in Egypt.

"We currently have Beechcraft SKA350 and a Hawker 850XP but we are now about to add a Legacy 600 to our fleet," said Amr Madi, sales and marketing manager. "The Legacy 600 fulfils all the needs we are looking for. It has low maintenance, covers distance, takes 13 people, and it has huge cabin space, which is great for our business travellers."

□□□□□

Madi also announced at Aviation Africa that the company hopes to get two smaller aircraft by the end of the year – making a total fleet of five.

"Egypt is getting to be a hub now," said Madi. "We have strong competition with companies like Smart Aviation, so we are expanding to address the needs of our customers. However, we focus mainly on the GCC and Europe, with 40% of our clients being Egyptian."

He added that the company does face a couple of challenges while focusing on these regions.

"Of course, we face restrictions on red zone areas like Syria, Iraq and some parts of Libya – just like other air taxi companies. However, we can have problems in European countries too. Germany, for example, is very strict on security approvals, so this can take us 72 hours to get clearance."

The company has 58 staff working across its range of services.

## Why second-hand GSE works for Africa

Aviation African offered some "good leads" for Belgian company TCR, which specialises in ground support equipment (GSE) and is looking to further expand its second-hand sales activity in Africa.

The company developed the idea of a GSE rental service in 1999, before rental was even an option for ground-handlers.

Today, it offers rental, repair & maintenance and fleet management within Europe, Australia, Asia and the Americas.

After a first period of rental, the equipment is available for the second-hand market worldwide – with Africa being an "important market with many opportunities for second hand GSE ready to serve".

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"We want to expand our activity in the region. The African market isn't relevant for our operating leasing but more for second-hand equipment," explained Arthur Agossou, remarketing manager Africa. "That means after its leasing life, we take over all the equipment, refurbish it and re-sell. "The equipment is prepared by our staff of skilled

mechanics and technicians in one of TCR workshops. Different levels of refurbishment are possible from up-to-date maintenance to Gold level refurbishment, and all equipment will be in any case delivered in operational condition and ready for use."

Bruno Motte, head of the remarketing department added: "If we look at emerging markets like Africa, from a traffic perspective, we have plenty of mid/small players and newcomers looking to capture or increase market shares rapidly and at lower costs. Used GSE is the perfect solution to grow fast at limited cost from an equipment point of view.

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"In most cases, a reconditioned unit is between 25 and 40% of the cost of a new one and can be ready for shipment in a few weeks."

The company has approximately 15% of business in Africa with second-hand GSE rental and operating lease, and has equipment in more than 20 countries within the continent including Kenya, Uganda, Liberia, Congo and Senegal. It is also slowly expanding in north Africa.



Arthur Agossou: "The African market is a big opportunity for second-hand equipment ready to serve."

## TALA'S NETWORK KNOWS HOW TO DELIVER

Set up in 2012, The Aerospace Logistics Alliance (TALA) is the first global provider exclusively dedicated to the aeronautic industry, specialising in bespoke aerospace logistics solutions.

"TALA calls upon a wide network of worldwide branches that can provide a one-stop-shop of logistics solutions for commercial airlines, OEMs and MROs. We hand pick our members and associates to reflect our heritage in this industry," said Joel Glusman, president and CEO.

"TALA has come a long way since its inception five years ago and today generates more than \$2 million."

TALA is a subsidiary of France's largest

independent logistics service provider, Crystal Group, and has a Miami headquarters and franchises all over the world.

"Africa is a fast-growing market – it's now booming," said Glusman. "Our African locations include Egypt, Tunisia, Morocco, Senegal, Kenya, Ivory Coast and South Africa."

"We are about to create a TALA Middle East between TALA Jordan and TALA Egypt."

He added that while TALA has attended many industry shows around the world, it is its first time in Africa.

"To come and exhibit here in Cairo is a new beginning for us in this region," he said. "Our goal is that we will be the premier player in servicing the aerospace industry for logistics."



Joel Glusman: "Africa is a fast-growing market – it's now booming."



Haitham Al-Naggar: "Aviation Africa was the perfect launch platform to introduce 'apps' to the industry."

## AVIATION AFRICA PERFECT TO PLUG 'APPS'

Swiss company Aphrodite chose Aviation Africa to launch its new ancillary revenue platform called 'apps'.

"Apps is a plug-and-play solution that will help relieve a burden, as well as costs, to airlines," said Haitham Al-Naggar, VP branding.

"It can facilitate everything that is travel-related within bookings, besides selling the seats. For example, EgyptAir can provide you with a hotel, car, travel insurance, destination-related services etc. What we are able to do is take away these services with customers simply plugging and playing this app – so no customer service is needed."

Apps currently hosts 2.5 million travel products, aggregating their prices in milliseconds, serving more than 30 airlines with a portfolio of 300 million passengers.

It handles 10 payment gateways with full transparency.

"All of this comes with a carefully crafted conversion rate optimisation strategy, which is capable of converting passengers into high-value travellers," said Al-Naggar.



The company, which has offices in Cairo, has been operating since 1992 offering insurance management, aviation marketing, aviation consulting and aviation agencies.

"Aviation Africa was the perfect launch platform to introduce 'apps' to the industry and we're excited to speak with the airlines," said Al-Naggar.



Abeer El Gohary: "We are local experts in lubricants."

## Oiling the wheels of commerce

MultiForce Egypt, the authorised distributor of AeroShell in the country, was at Aviation Africa to "network" with the airlines as it looks to expand its products in the African market.

"We serve a diverse cross-section of worldwide aviation, marine, and military manufacturers and associates, enabling the growth and sustainability of these sectors in Egypt," said Abeer El Gohary, general manager.

"We are local experts in lubricants. For the aviation market, we distribute fluids, greases, piston engine oils, and turbine engine oils."

The company has been active in Egypt since 1994 under the Egyptian Petroleum Products Marketing Company, the largest distributor of Shell Oil in Egypt.

In 2010, MultiForce partnered up with Shell Aviation.

Today, the company has an established warehouse in Alexandria Free-Zone.

"It's been fantastic to exhibit here at the show and speak with the airlines as we look to expand in Africa. It is our main focus – we are particularly interested in Morocco, Nigeria, Kenya, and Sudan," said El Gohary.

## Tool orders for Bahco

The Egyptian agent for Swedish aircraft hand toolmaker, Bahco, had a "fantastic" two days at Aviation Africa.

"Being based in Cairo, it made sense to come to the show but it has turned out even better than we could have expected after making new contacts and receiving lots of orders. We are very excited about this," said Ramez Henry, CEO of Brain Power.

Bahco provides airline and aerospace engineers with highly specialised hand tools for all aircraft types.

"Bahco simply offers the best quality tools for the aviation sector with a lifetime warranty," said Henry.



Ramez Henry: "It has turned out even better than we could have expected after making new contacts and receiving lots of orders."

Abderahmane Berthe, secrétaire général de l'AFRAA, dresse un bilan en demi-teinte des compagnies aériennes africaines surtout face à la compétition mondiale dans un entretien accordé à Romuald Ngueypa à Aviation Africa.

## Un ciel ouvert peut redessiner la carte du transport aérien africain

« Comme toutes les compagnies à travers le monde, la santé des compagnies aériennes africaines est à la fois complexe et compliquée. On dénombre quelques-unes qui se démarquent sur le continent, mais la plupart des compagnies africaines sont confrontées à des difficultés. »

Selon lui, pour certaines ces difficultés sont liées à l'environnement et pour d'autres elles sont d'ordre structurel.

« En Afrique, les compagnies aériennes subissent les effets du lourd fardeau fiscal, des prix du carburant supérieurs à la moyenne mondiale et de la libéralisation limitée à l'intérieur du continent », déplore-t-il.

A cela s'ajoutent, les problèmes opérationnels comme l'utilisation des avions inadaptés au réseau d'exploitation.

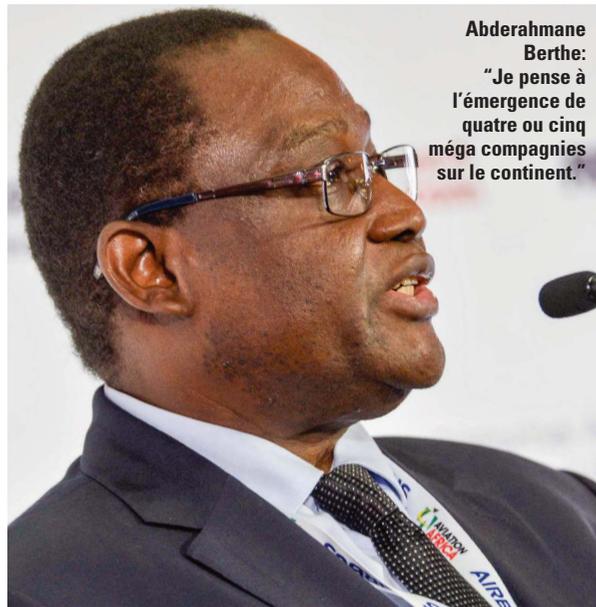
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Outre la santé des compagnies aériennes africaines, cette troisième édition d'Aviation Africa, a également permis aux acteurs de l'industrie de l'aviation civile de discuter des enjeux de la libéralisation du ciel africain et du renforcement des normes. Ceci dans un contexte marqué par une compétition rude et l'instabilité politique dans certains pays africains.

L'ouverture du ciel africain, modifiera la cartographie des compagnies sur le continent selon Abderahmane Berthe. « Dans un avenir proche, la certitude c'est qu'il y aura de grandes compagnies qui vont se démarquer. Je pense à l'émergence de quatre ou cinq méga compagnies sur le continent. »

Il explique que des compagnies régionales « continueront d'exister et de profiter du marché africain » car « pour assurer une bonne connectivité intra-africaine, il faut une diversité de compagnies sur plusieurs segments ».

Toutefois, la libéralisation comporte un certain nombre de risques et Abderahmane Berthe rassure que la mise en application du marché unique du transport aérien africain (MUTAA) s'accompagnera d'un



Abderahmane Berthe: "Je pense à l'émergence de quatre ou cinq méga compagnies sur le continent."

### SUMMARY

## OPEN SKIES CAN REDRAW THE MAP OF AFRICAN BUSINESS

Abderahmane Berthe, secretary general of the African Airlines Association (AFRAA), updated delegates with his current assessment of the airline business in Africa during the organisation's third Aviation Africa conference in Cairo.

"Like all companies around the world," he said, "the health of African airlines is complicated. There are some on the continent that stand out well but most face challenges."

According to Berthe, some of these are related to the environment, while others are more structural.

"In Africa, airlines are suffering the effects of heavy tax burdens, higher fuel prices than the global average, and limited liberalisation within the industry," he said. In addition, there are operational issues, such as the wide use of aircraft unsuited to the operating network.

In addition to the health of African airlines, the conference also enabled the civil aviation industry to discuss issues around liberalisation of the African skies and the strengthening of standards, despite strong competition and some political instability.

Berthe continued: "In the near future, the certainty is that there will be big companies that will stand out. I'm thinking of the emergence of four or five mega-companies on the continent."

He explained that regional companies "will continue to exist and benefit from the African market" because "to ensure good intra-African connectivity, we need a diversity of companies in several segments"

certain nombre de dispositions légales dont l'une concerne les règles de compétition et les mécanismes de règlement des différends. « Je pense aussi qu'il faut écouter les craintes des compagnies et voir ensemble si on peut renforcer les règles de compétition. »

Le marché unique engendra une compétition féroce entre les compagnies du continent et les transporteurs étrangers. Pour Abderahmane Berthe, la mise à niveau des compagnies africaines aux normes internationales constitue une première étape face à la compétition. Des avancées significatives ont été déjà faites au sein de l'AFRAA.

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Pour lui une lecture plus approfondi de la libéralisation du ciel africain permet de lever ces équivoques. « On devrait voir le MUTAA sous un spectre plus large. Il faudrait plutôt aller à l'essentiel et se focaliser sur les bénéfices que le MUTAA peut avoir pour l'Afrique. J'estime qu'il y a un bénéfice assez important pour le développement et l'intégration africaine. »

Un des avantages de la libéralisation du ciel africain est le renforcement de la concurrence entre les itinéraires ce qui entraînera des tarifs plus compétitifs. A ce titre, il invite au respect des règles de compétition. « Les gouvernements ne peuvent pas subventionner indéfiniment les compagnies car cela ne les encourage pas à être plus performantes. »

Le MUTAA entraînera par ailleurs une augmentation de la croissance économique et de l'emploi. D'après l'IATA, si douze pays africains majeurs ouvraient leur ciel, le secteur enregistrerait cinq millions de passagers additionnels chaque année, ainsi que la création de 155 000 emplois, ce qui générerait 1,3 milliard de dollars par an.

Un effort concerté en matière de libéralisation de la part des gouvernements pour promouvoir la connectivité intra-africaine est toutefois nécessaire.

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*One highlight of Aviation Africa was the African launch of the new Bose headsets meaning that airline pilots can at last benefit from a technology that has changed the world for passengers and general aviation pilots around the world.*

**Alan Peaford** reports.

**W**hen the music-loving Dr Amar Bose boarded his Swiss Air flight to Boston in 1978, he was full of excited anticipation. The airline was featuring headsets for the first time to allow passengers to listen to music during the long transatlantic flight.

That excitement didn't last very long. After realising he couldn't hear the music above the noise of the engines and turning up the volume simply distorted the sound, the MIT professor threw the plastic tubes off and took out his notebook.

By the end of the remaining seven hours of the flight, Bose had written out the equations that would develop the noise-cancelling technology that would revolutionise the passenger experience.

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It took six years before a working prototype was developed, coinciding with a lot of interest in another aviation pioneering moment as pilots Dick Rutan and Jeana Yeager were preparing for their mission to become the first people to circumnavigate the world, non-stop, without refuelling. The pair were advised they could lose 30% of their hearing during the mission.

Dr Bose demonstrated his new headset to the pair, who described the invention as "mission critical". The record-breaking Voyager flight resulted in no hearing loss.

While Dr Bose and his now successful Bose Corporation turned their focus to bringing the active noise-cancelling technology to market for passengers, the commercial aviators were left behind.

But not any more.

At a series of major aviation events during April, from Sun and Sands in Florida, Aircraft Interiors Expo in



**The Bose ProFlight Aviation Headset: the industry's smallest, quietest, most comfortable noise-cancelling communication headset.**

## THE SOUND OF SILENCE ON THE FLIGHT DECK

Hamburg, Aviation Africa in Cairo, and Aero Friedrichshafen in Germany, Bose unveiled its new active noise-cancelling headset for the flight deck, the Bose ProFlight Aviation Headset.

Designed for the professional pilot in business and commercial aircraft, the ProFlight is the industry's smallest, quietest, and – having tested it myself at Bose's Massachusetts headquarters – most comfortable active noise-cancelling communication headset.

It is packed with new technology, featuring more than 30 US design and utility patents, and features a lightweight and comfortable in-ear configuration, three user-selectable levels of active noise cancellation, and a tap control for a talk through communication function that allows pilots to hear anyone on the flight deck who is not connected to the intercom – without removing the headset or an earpiece.

It is Federal Aviation Administration (FAA) TSO C139a and European Aviation Safety Agency (EASA) E/TSO C139a certified – a requirement that is increasingly important for many airlines and corporate flight departments.

"We've spent more than 30 years researching and developing active noise-cancelling technology," said Matt Ruwe, senior product manager, Bose aviation and military headsets. "This is the culmination of that experience and knowledge, and provides a real solution to many of the challenges pilots of crewed and turbine-powered aircraft face."

The ProFlight is designed for the lower noise environment. It caters for the unique needs of pilots of airline and top-end business jets.

The company's best-selling A20 headsets already dominate the market for general aviation and turboprop pilots and the new ProFlight takes it a stage further.

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"As a company, we are obsessive about bettering what has been done before," said Tim Leland, head of brand and product marketing. "We recognised the big differences on the airline flight deck and that the pilot needed to control the level of noise reduction. We wanted to develop it so the pilot doesn't have to take off the headset during flight, to make it that comfortable."

Using ideas from the Bose well-being range, the lightweight in-ear silicone tip rests in the upper ridge of the ear for more comfort, and the technology allows the pilot to just flick his ear to turn any noise reduction off. It also features Bluetooth and has a 48-hour battery life.

Bose is talking to airlines across the Middle East and Africa about fleet deals for the headset, which became available for retail sale during the first week of May at an expected price of a little less than \$1,000. ■

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As soon as governments get a good picture of what they can really get out of this – from open skies and dropping taxes – then we will get to a position to attract low-cost carriers and private investors.

HADI AKOUM



## Governments hold the key to unlock Africa's potential

*Airbus' top salesman for Africa, Hadi Akoum, believes that a clear dialogue with governments could be the key to unlocking Africa's aviation potential.*

**Victoria Moores** reports.

According to Hadi Akoum, Airbus vice president for sales in sub-Saharan Africa, private sector investors are generally still hesitant to come to the continent. "This is why I believe that governments need to be involved," he said, speaking outside the Aviation Africa event in Cairo.

Once airlines have been established and proven the market, then private investors will be more willing to come in, he believed.

With this in mind, Airbus has been working with African governments – including Burkina, Ivory Coast, Mauritius, Nigeria, Rwanda, the Seychelles and Uganda – to explain the economic benefits that aviation can bring to their countries. "Mauritius really understood what needed to be done, and the Seychelles as well," he said.

The European airframer makes these connections on EU diplomatic missions, at conferences, or during country visits. Airbus also invites government officials to visit its facilities to learn more about the industry and aircraft manufacturing.

One of the key messages that Akoum seeks to convey is the wider benefit to the country. "One airline job creates six elsewhere," he said, including taxi drivers and workers in hotels, restaurants and agriculture.

A lot of the work involves helping governments create their own know-how on how to set up and run an airline and training facilities. Airbus also teaches governments what not to do, flagging the damage from counter-productive policy measures, like over-taxation.

"As soon as governments get a good picture of what they can really get out of this – from open skies and dropping taxes – then we will get to a position to attract low-cost carriers and private investors," he said.

Continued  
on Page 82

CONTINUED FROM PAGE 81

Airbus releases regular industry forecasts. African traffic is growing pretty much as expected, with one glitch. "It is not tracking well for African airlines; it's tracking well for other airlines," Akoum said. "Middle East and European airlines are benefitting more from the growth than African airlines."

But are African airlines fighting back? "Not to the level we would like. It is starting, but in a relatively shy way. They could do more," he said. "African airlines are really struggling with growth and increasing available capacity in the market. Their businesses are not profitable because governments interfere a lot with tax. It's not easy to make money and to grow."

While both African and non-African airlines face high taxation on the continent, this higher cost hits African carriers across their entire network. Non-African carriers also typically operate more lucrative long-haul services, where higher costs can be offset in the ticket price. On short-haul, viable pricing is far

harder. Akoum called on governments to "look beyond the tax", so African airlines can meet their potential.

Lower taxes and charges, set within a truly liberalised market, could give rise to more low-cost carrier activity in Africa. "All the blockages and tax won't allow for the low-cost model to work," Akoum said. Airlines need to be able to maximise their utilisation so they can spread their costs and offer low prices, stimulating demand and economic growth.

**"All the blockages and tax won't allow for the low-cost model to work."**  
HADI AKOUM

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Tanzanian low-cost carrier, Fastjet, started out with Airbus A319s, but has since transitioned to an Embraer fleet. Does this mean Airbus aircraft are not the right size for the African low-cost model?

"People don't realise how big Africa is," Akoum said. "Sometimes you can travel seven or eight hours and you're still in Africa. You don't have many continents like this. You need it all. You need small aircraft below 100 seats to operate some

sectors, and above 100 seats to operate others."

Airbus is hoping to become a player in smaller aircraft by buying into Bombardier's CSeries programme. "There is potential for all sizes of aircraft and I see no reason why that [CSeries] size of aircraft would work in Europe and not in Africa," he said. However, for the time being, Airbus and Bombardier remain rivals. "It is too early. We hope that, over the coming months, we will have a clear decision on what our relationship is with the CSeries."

Historically, Boeing has had a stronger presence in Africa than Airbus, but Akoum sees that progressively shifting. Over the past eight years, Airbus has added 28 operators in Africa, taking it to slightly above 243 aircraft in operation with 30 airlines. Airbus has a further 50 aircraft on order with African operators.

"We have achieved quite a lot over the past eight to 10 years on this. Yes, traditionally Boeing had much more presence than Airbus, but very often it's their older aircraft which are still flying. Over the past 10 years, our market share in Africa has been almost equal, or higher, than Boeing. It's small volumes, but we are recovering very quickly in terms of the number of aircraft operating on the market. Airlines are becoming more and more familiar with our aircraft"

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With the increased fleet comes an increased support presence, as operators set up their own maintenance, repair and overhaul (MRO) operations. "We are working with Ivory Coast to prepare for MRO in the future. The airline is growing well and I believe this country – and airline – have the right elements to become one of the biggest players within west Africa. Depending on the speed of their growth, something around 2020 could be feasible."

Size is important, he explained. "Some companies that had their own MRO decided to stop. It is very expensive to keep their own MRO with a fleet size of fewer than 10 aircraft. You need a certain size of fleet to afford to have an MRO business, somewhere near 20 aircraft to have a good business case."

Akoum remains confident that more airlines will build up the critical mass they need to succeed.

"It's going to happen. Just look at Latin America 25 years ago. It's all about liberalisation and open skies. Private investors need to see political stability and easy business practices. We are not yet there in many countries in Africa. ■

SOMMAIRE

**LES GOUVERNEMENTS ONT LA CLÉ POUR LIBÉRER LE POTENTIEL DE L'AFRIQUE**

*Hadi Akoum, vice-président des ventes d'Airbus en Afrique et dans l'océan Indien estime qu'un dialogue franc avec les gouvernements permettrait de libérer le potentiel de l'aviation en Afrique. Un reportage de Victoria Moores.*

S'exprimant à « Aviation Africa 2018 » au Caire, Hadi Akoum a souligné que les investisseurs privés hésitent encore à venir sur le continent. Airbus a ainsi travaillé avec les gouvernements africains (Burkina Faso, Côte d'Ivoire, Maurice, Nigeria, Rwanda, Seychelles et Ouganda) pour expliquer les avantages économiques que l'aviation peut apporter à leurs pays et leurs économies. « Maurice a vraiment compris ce qu'il fallait faire, et les Seychelles aussi. »

Il s'agit d'aider les gouvernements à créer leur propre savoir-faire pour mettre en place et gérer une compagnie aérienne et des centres de formation. L'avionneur évoque également les méfaits des mesures politiques contre-productives, comme la surtaxe.

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Les prévisions d'Airbus montrent que même si le trafic africain croît à peu près comme prévu, les compagnies aériennes du Moyen-Orient et d'Europe bénéficient davantage de la croissance que les compagnies aériennes africaines.

Selon Hadi Akoum, les compagnies aériennes africaines sont aux prises avec la croissance et l'augmentation de la capacité disponible sur le marché. « Elles ne sont pas rentables parce que les gouvernements interfèrent beaucoup sur la fiscalité. »

Il a appelé les gouvernements à « regarder au-delà de

la taxe », pour que les compagnies aériennes africaines puissent atteindre leur potentiel.

Des taxes et des charges plus faibles, dans un marché véritablement libéralisé, pourraient dynamiser l'activité des transporteurs à bas prix en Afrique, et donc stimuler les économies. Airbus espère devenir un acteur dans le segment des petits avions en s'appuyant sur le programme CSeries de Bombardier.

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Historiquement, Boeing a eu une présence plus forte en Afrique qu'Airbus, mais Hadi Akoum constate des changements progressifs. Depuis les huit dernières années, Airbus a 28 opérateurs de plus en Afrique. L'avionneur compte 243 avions en service auprès de 30 compagnies aériennes et a enregistré 50 commandes.

L'augmentation de la flotte s'accompagne d'une présence accrue en matière de support, car les opérateurs mettent en place leurs propres opérations de MRO. Airbus travaille d'ailleurs avec la Côte d'Ivoire.

Comme la taille des compagnies est importante pour ce type d'installation, Hadi Akoum reste confiant que davantage de compagnies aériennes accumuleront la masse critique nécessaire pour réussir.

Les facteurs clés sont demeurent toutefois la libéralisation du ciel, la stabilité politique pour attirer les investisseurs et des pratiques commerciales efficaces.



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*Captain Alia Twal had a simple message to pass to the Aviation Africa audience: If you are female, want to be a pilot and have the determination, nothing should stop you.*

**Marcelle Nethersole** meets the woman who lives the dream.

**L**ike most little girls, Alia Twal had big dreams when it came to a career. She wanted to be either an animal tamer in the circus or an astronaut.

However, these dreams changed as a teenager after she attended a school careers day.

“There were pilots at the event giving a talk and I asked if there were any female pilots. I was surprised to hear that there were,” said Twal.

“Growing up in Jordan, I had never heard of female pilots – even though Jordan is one of the pioneers of flying. It was a life-changing moment for me as I decided there and then that that was exactly what I wanted to do.”

After speaking with her parents, both doctors, about her new ambition, it was a resounding “no”.

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“The problem was I was female and, not only that, a female growing up in the Middle East,” explained Twal. “My parents expected me to become a doctor – not something that was ‘unusual’ in their eyes.

“In the Middle East, there are a lot of barriers for women; the cultural barriers, the lack of information we get, and the taboo of females doing anything that men tended to do.”

Twal finished school and won a scholarship but stayed at home for a year before convincing her grandfather she wanted to train as a pilot.

“Eventually, my parents were convinced by my grandfather for me to join the aviation industry,” said Twal. “I studied at the academy, where I was one of four females, and I finished after two years with a commercial instrument rated pilot’s licence – but I was in love with single engines so I stayed a little longer and became a flight instructor. At age 24, I was the youngest female pilot in the Middle East.”

Twal was a flight instructor for three years before accepting a job with Jordanian Airlines as a first officer on an



Alia Twal and (right) speaking at Aviation Africa.



guaranteed,” said Twal. “We need to bring in more career days exposing pilots; airlines need to encourage more female pilots – as well as support them if they want children. You can still fly and have a family!

“We also need to educate parents of potential female pilots, particularly in the Middle East, and say it is not unusual and your daughter can fulfil her dream. This is a daily challenge on which we all need to work together.”

Twal is now the governor of the Arabian section of female pilots’ networking group, the 99s – the international organisation of women pilots that promotes advancement of aviation through education, scholarships and mutual support. It was set up by 99 female pilots in 1929, with its first president being Amelia Earhart.

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## EVERY WOMAN CAN BE A HIGH FLYER

“In the Middle East, we have 120 people in the 99s and we are looking to increase figures all the time” said Twal. “[Flight Training Organisation] Airways Aviation recently launched and awarded a joint scholarship programme with the Arabian 99s that allows us to jointly screen, and sponsor, female student pilots – which is wonderful.”

There are still challenges, though, for women to become pilots and Twal is passionate to help change these.

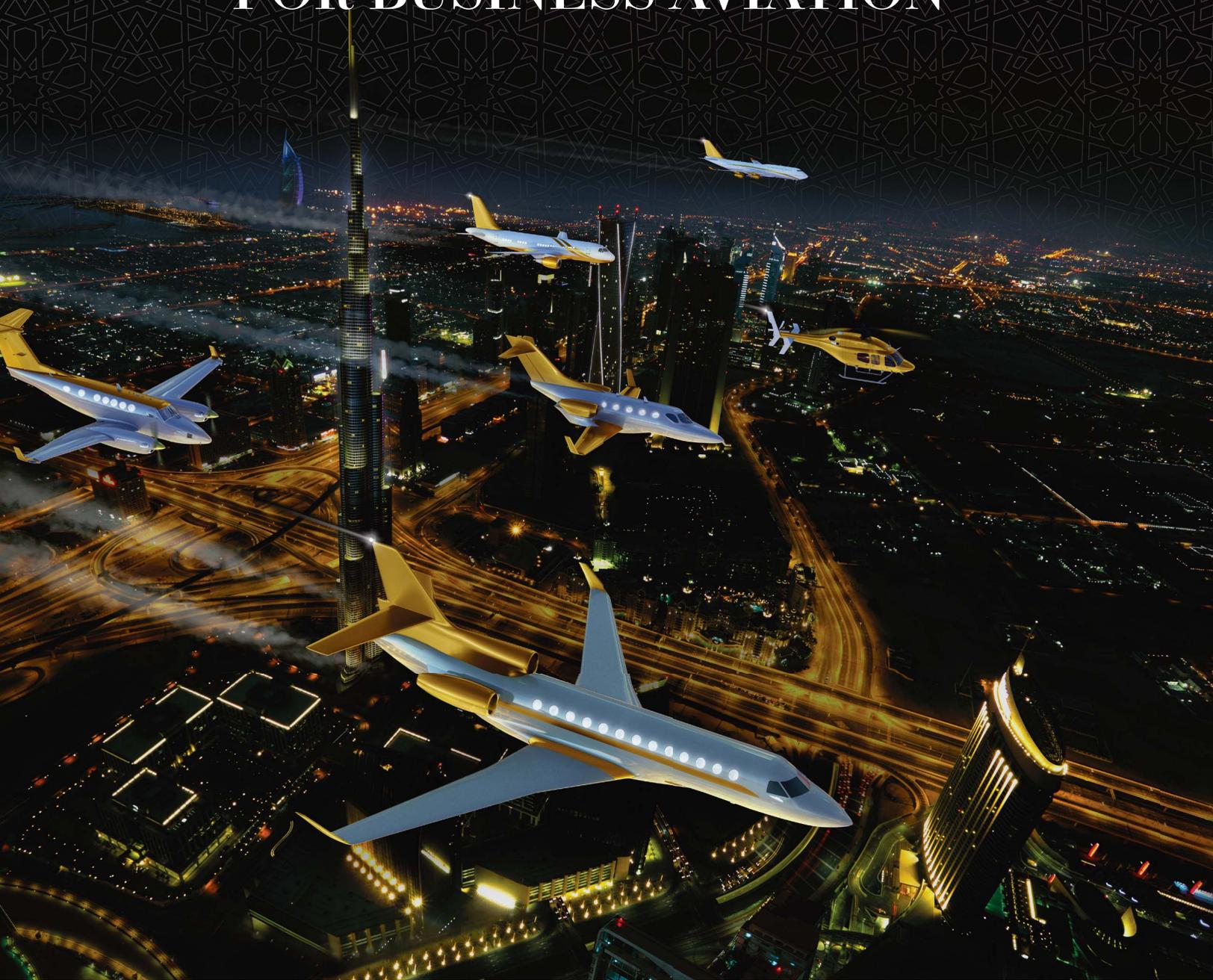
“Flying is very important for tourism and many people think of pilots as heroes and presume they are men,” said Twal. “We need people to understand a female pilot is normal; we do the same job, the same training, the same number of flying hours, and we also get the same pay here in the Middle East.

“When you watched the film Top Gun, how many men and women wanted to be fighter pilots? Nearly everyone! So why shouldn’t a woman be able to do that? Women can be pilot heroes too.”

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According to Leon Dillman, CEO of the Commercial Aviation Association of Southern Africa (CAASA), this year's anticipated Africa Aerospace and Defence (AAD2018) show is expected to be "bigger and better than ever". **Marcelle Nethersole reports.**

# It all AADs up to a spectacular



The Goodyear Eagles Pitt Special Aerobatic team will once again thrill the crowds with their spectacular aerial displays.

Inset: The Silver Falcons from the South African Air Force flying the Pilatus PC7 Mkii aircraft.

**A**AD is the premier exhibition for air, sea and land technologies on the African continent and the only expo there that combines both a trade exhibition and an air show.

It is one of South Africa's largest contributors to the country's gross domestic product (GDP).

This year's event will take place at Air Force Base Waterkloof in Tshwane, South Africa's administrative capital, from September 19 to 23. It is expected to receive 35,000 trade visitors and 90,000 visitors for the two public days.

The opening ceremony will also feature a military tattoo for the first time.

The event is managed by a partnership, which includes the Department of Defence, Armscor, the South African Aerospace, Maritime and Defence Industry Association (AMD) and CAASA. Each entity hosts the biennial event on a rotational basis.

CAASA is responsible for staging AAD2018 and its CEO, Leon Dillman, said bookings have exceeded expectations.

"Currently, 94% of outdoor space and 91% of all available indoor exhibitions space has been booked," he said. "Our exhibitors have given us a lot of support by signing up 80% of the available hospitality chalets."



**Leon Dillman:** "Spectacular aerial and ground displays, some of which have never been seen before on the African continent."

Dillman added that the event will see a record 14 national pavilions, including Russia, China, the USA, UK, Turkey, Italy, Germany, Lithuania, Czech Republic and Poland. France's participation at AAD2018 is with a new national pavilion.

"Five nations are expanding their pavilions, with Canada, Brazil, Namibia and Zimbabwe considering building a national pavilion each," added Dillman.



AAD2018 will see the return of some of the major manufacturers. Already confirmed are: Boeing, Dassault Diamond Aircraft and Embraer, along with Mahindra Aerospace, Safran, Russian Helicopters, Honeywell, Rockwell Collins, Lockheed Martin and, local firm, Paramount Group.

A new feature on the AAD2018 programme will be seminars, covering topical subjects such as cyber security and the future of drones.

"We've had a great deal of interest from remotely piloted aircraft system (RPAS) companies and unmanned aerial vehicle manufacturers. For that reason, AAD2018 will feature a dedicated drone pavilion – only the second time that this has been done," said Dillman.

"Seminars at major exhibitions have gained popularity worldwide, both as a means to convey key capabilities in a specific field to the top-level decision-makers attending the exhibition, and to enable the industry to engage on a wider level. Due to this, we are offering a number of small theatres with seating capacity of 50 for presentations, product launches and media briefings, which are ideal at a venue like Waterkloof."

The seminars will be hosted on the business days but Dillan said the organisers were still working on the agendas.

He said: "Though our topics have been confirmed, we are in the process of finalising keynote speakers in the various fields. However, we can confirm that we have partnered with the University of Stellenbosch on the seminars."

Once again there will be what is promised as "spectacular aerial and ground displays, some of which have never been seen before on the African continent".

As *African Aerospace* went to press, Dillman said they were still waiting to finalise aircraft participation.

"Several countries will be taking part in the display but we are still awaiting confirmation of aircraft types. We hope to make an announcement shortly. We do know it will be very exciting." ■

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Our vision is to be the leading MRO service provider in the Africa and Middle East region.  
MESFIN TASEW

# Ethiopian maps the route to 2025

*Ethiopian MRO Services is building its capabilities to meet growing demand for MRO services and to expand its third-party business operations in Africa.*  
**Kalesus Bekele** reports from Addis Ababa.

**E**thiopian Airlines MRO Services began as a small maintenance centre when the national airline started operation in April 1946. The 72-year-old airline is one of the oldest in Africa.

The maintenance unit has evolved to become one of the best MRO centres in Africa. Today it is one of the seven strategic business units of Ethiopian Airlines Aviation Group. Staffed by more than 1,500 aircraft maintenance technicians and engineers, Ethiopian MRO Services has six aircraft maintenance hangars.

Ethiopian Airlines chief operating officer, Mesfin Tasew, said Ethiopian MRO Services has extensive capabilities. He highlighted its full repair capability for most Boeing aircraft, including the B787, B777, B767, B737 Classics and NGs, and B757.

“We also have maintenance capability for the Airbus A350, which is a new aircraft. Currently we can do minor maintenance but we are developing a heavy maintenance capability.”

Ethiopian MRO Services has a full airframe maintenance capability for Bombardier Q400 aircraft.

Continued  
on Page 90

CONTINUED FROM PAGE 89

It also has a big engine shop that can repair and overhaul the engines that power the B737 aircraft – the CFM International CFM56-3 and -7 series – as well as full overhaul capability on the P&W 150A engine that powers the Q400.

In addition to that, it has modular capabilities for PW4000, and PW 2000 engines. “We also have capabilities for auxiliary power units (APUs) that are installed on B767 and B737 fleet,” said Tasew.

Ethiopian MRO Services runs shops that can repair close to 1,000 different types of components of various types of aircraft models. “In addition to repair capabilities, we have some engineering capability to develop modifications on aircraft.”

According to Tasew, Ethiopian MRO Services has an ambitious plan to develop further capabilities on new engine models and additional components.

Recently, the MRO centre started developing an in-house capability for the General Electric GENx engine that powers the B787 Dreamliner aircraft. By March next year it will have full overhaul capability. Ethiopian has already invested more than \$8 million on building the maintenance capability for the GENx but the total investment is expected to rise to \$30 million by March.



Ethiopian Airlines has invested much to develop its MRO division capabilities, particularly on the infrastructure side. The centre has six maintenance hangars, four of them with closed doors. The company has invested \$100 million to build two new hangars and associated infrastructure. One of these hangars has full paint capability.

The two new hangars are both on 16,000sqm sites and have the capability to house the biggest B747-8 aircraft. Each can accommodate two B787 or four B737s at the same time.

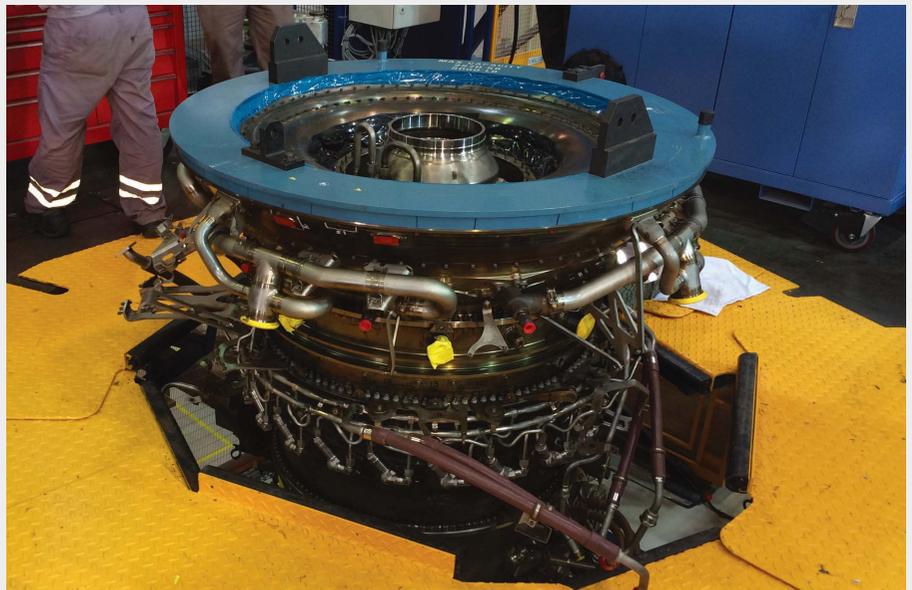
The airline invested \$22 million to develop overhaul capability on the CFM56 engine and recently it invested close to \$10 million for the PW150A capability. “We are making a lot of investment on capability development,” Tasew said.

As part of the Ethiopian Aviation Group, Ethiopian MRO Services has a 15-year growth road map dubbed ‘vision 2025’.

“Our vision is to be the leading MRO service provider in the Africa and Middle East region,” said Tasew. “As part of this, we have a clear roadmap to expand our facilities. The plan is to add at least one hangar every five years and to expand our engine shop every five years.

“We actually expect to have an additional hangar after three years because our fleet is growing and more customer airlines are sending their aircraft for repair.”

Ethiopian MRO Services is planning to build an entirely new component repair shop. “It will be a standalone modern shop that will enable us to develop capability to maintain components in the shortest time possible. The design is



Engine maintenance is a key element of Africa's needs.

## The Ethiopian target: an independent MRO for Africa

Ethiopian MRO Services, with an eye firmly fixed on the future, has been investing in what some might consider over-capability – OEM approvals and tooling for aircraft and engines not flown by its parent airline.

Retta Melaku, director of MRO sales and marketing, says it's part of the company's plan under 'vision 2025' to create an independent MRO for Africa.

Although the introduction of new types, such as the Boeing 787 and its GENx engines into Ethiopian's own fleet is the main driver for its development, MRO Services takes a pan-African approach wherever it can.



“Ethiopian operates the CFM56-7B on its 737NG fleet,” said Melaku. “We don't have 737 Classics, which use the CFM56-3, but there are many in the region, so our strategy is to develop capabilities for both engines where it is a simple matter to do so.”

Similarly, Ethiopian MRO Services has Bombardier maintenance approvals not only for its own Q400 aircraft but for other models in the Q-Series as well – Q100/200/300 – which are flown in the region.

Ethiopian doesn't operate the B747-800 either,

but can handle full maintenance of its GENx engines, thanks to the new workshop set up to support the 13 GENx-powered B787s in Ethiopian's fleet.

A prominent feature of the GENx workshop is the new vertical strip/build stand supplied by UK-based TBD, a specialist manufacturer of maintenance and ground support equipment.



TBD engineering director, Steve Williams, said the rig, complete with four linked jacks, is the first engine access product his company has supplied to Ethiopian, a customer of long-standing. A second rig is planned.

“When you're dealing with expensive assets like aircraft engines, the equipment that enables careful, safe and quick access for the dismantlement process has to be reliable,” he said. “A rig like this is a precision piece of equipment, fabricated to tight tolerances.

“Our team assembled it in the hangar with the help of a local electrical contractor.”

Melaku said TBD is a “key partner” whose “stringent quality controls” support Ethiopian's aim to cement its position as Africa's leading MRO provider.

completed and, currently, we are preparing the budget for the construction.”

The centre’s technicians are trained at the Ethiopian Aviation Academy – the biggest aviation academy in Africa.

The MRO centre is approved by the US Federal Aviation Administration (FAA), European Aviation Safety Agency (EASA) and the Ethiopian Civil Aviation Authority (ECAA). It is accredited by original equipment manufacturers (OEMs) including Boeing, General Electric (GE), Pratt and Whitney of Canada (PW), and Bombardier.

Ethiopian, which has been operating an all-Boeing fleet for decades, for the first time acquired Airbus aircraft in June 2016. Currently, Ethiopian MRO Services is trying to build its maintenance capability on the A350 jetliner, which the company operates.

Ethiopian MRO Services primarily serves the growing fleet of the national airline, which currently operates close to 100 aircraft and has more than 60 more on its order book.



The MRO division also provides aircraft engineering and maintenance services for other airlines; a number from sub-Saharan African countries are customers. “The traditional way was for customer airlines to bring their aircraft, engines and components to Addis Ababa and we repaired them and sent them back. But recently we have expanded our service to line maintenance at other airlines’ home base by positioning our technicians there,” said Tasew.

Ethiopian MRO Services provides total care support to Asky Airlines, Malawi Airlines, RwandAir, Cameroun Airlines, Congo Air, and Jambo Jet. It also provides line maintenance services to Arik Air in Lagos. “Since we now have excess capacity at our home base we want to aggressively work on third-party business. We have built state-of-the-art maintenance hangars and we have trained a large number of technicians.”

The revenue Ethiopian MRO Services generates from third-party business is growing. In 2016-2017 the centre chalked up \$45 million from third-party business. In the current fiscal year, it anticipates earning \$60 million.

Ethiopian MRO Services targets \$520 million annual revenue by year 2025.

Several new airlines are being established in Africa and, currently, many countries are in the process of relaunching their national airlines. As the number of operators increases, so does the MRO market.

Ethiopian MRO Services is vying to catch a good chunk of this growing market and Tasew is confident the division will attract more customers from sub-Saharan Africa. “We will promote our maintenance capability and total care support that we can cater to customer airlines at their home base,” he said.

**“ We are in discussions with some manufacturers to forge some kind of partnership that will enable us to work together and gain a good portion of the MRO market in Africa and the Middle East.”**

**MESFIN TASEW**

His organisation is collaborating with OEMs including Boeing, Airbus, Bombardier, GE, PW, Honeywell, and Snecma in developing in-house maintenance capacities and extending these capacities to other African countries.

“We are in discussions with some manufacturers to forge some kind of partnership that will enable us to work together and gain a good portion of the MRO market in Africa and the Middle East,” Tasew said.

He added: “In the coming years our main focus will be promoting our MRO service capability in sub-Saharan Africa and expanding our market share in the region. We also want to attract more airframe maintenance work from African operators and Middle East carriers. We are trying

to have strategic agreements with major operators like Flydubai that have bigger fleets.”

The second primary focus will be developing component maintenance capabilities. The centre wants to grow the number of components it can repair focusing on B737, B777 and B787. It also hopes to start working on components of A350s.

In parallel, it needs to provide tailored solutions to other airlines by providing component support services.

Ethiopian MRO Services is planning to branch out to other African countries. “We have a plan to establish MRO facilities in west and southern Africa,” Tasew said. The organisation is contemplating setting up an MRO facility in Blantyre, Malawi where it has a sister airline, Malawian.

“In southern Africa, we have customers like TAAG Angola and Malawi Airlines, who bring their aircraft all the way to Addis Ababa for maintenance. We are going to establish an airline in Mozambique. It will be cost-effective and convenient for them if we establish an MRO centre there.”

Ethiopian MRO Services also anticipates setting up a centre in west Africa. “There is a huge MRO market. Nigeria has a big aviation industry. There are several operators in Ghana. We also have Asky in Togo. So, we need to establish an MRO centre in either in Lome, Accra or Lagos, where we can provide a better service to the west African market,” concluded Tasew. ■

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*Africa's fleet of business aircraft benefits from fully accredited MRO capabilities right on its doorstep, thanks to ExecuJet. Chuck Grieve reports.*

# ExecuJet set-up positioned to capitalise on European market

**B**usiness aviation is an important part of the civil sector in Africa for the simple reason that travelling between the continent's countries is often time-consuming and expensive.

The appetite among wealthy individuals, businessmen and government officials for efficient and convenient connections remains strong. It will take some time, say observers, for the impact of the recently-signed single African air transport market (SAATM) initiative to filter down to the level of airline ticket prices.

But business aviation and the services that support it are facing a challenge that Vincent Goncalves, ExecuJet maintenance director, South Africa, puts down to the "dwindling numbers" of African private aircraft owners.

As the numbers of jets owned by African customers across the continent drops, he said: "We're seeing a lot of operators from European and other continents bringing aircraft into Africa to do charter work. The two trends are just about balancing each other."

For MRO operators such as ExecuJet, with its focus on business and regional aircraft, an increasing amount of maintenance work for European operators can only be good news.

Goncalves says the change in market composition is due to affordability. Aircraft are expensive assets; many businessmen and government officials are finding that charter also suits their needs but at a lower cost than full ownership.

European operators appear to have seen the potential in catering for intra-continental business travel, where security as well as convenience is a major draw.

These operators are opting to base their lease aircraft in Africa so that they are readily available. "This gives us an opportunity to do their maintenance," said Goncalves.

In the jet market, "we're seeing more wider-body aircraft because of the necessity to charter rather than fly by commercial airlines."



On the third-party MRO side, ExecuJet mostly works with wide-body aircraft such as Bombardier Globals and Challengers, Dassault 7Xs and Falcon 900s, Embraer Legacy and the Gulfstream 400/500/600 series, owned and operated by private owners, large fleet operators and long-distance charterers.

ExecuJet has two bases in South Africa – at Johannesburg's Lanseria International Airport and at Cape Town International Airport – as well as Nigeria at Murtala Muhammed International Airport in Lagos. There, business jet operators can tap into a comprehensive range of round-the-clock services, including aircraft maintenance and management, fixed-base operations and full concierge services, which ExecuJet offers alongside its corporate charter business.

All locations have the appropriate national and



**We're seeing a lot of operators from European and other continents bringing aircraft into Africa to do charter work.**

VINCENT GONCALVES

international regulatory accreditations and approvals from original equipment manufacturers (OEMs) including Bombardier, Cessna, Dassault, Embraer, Gulfstream and Hawker.

ExecuJet is an approved continuing airworthiness management organisation (CAMO) in Australasia and Europe. These approvals have been recently extended for Europe to CAMO+, enabling the MRO to issue and recommend airworthiness review certificates. The group is also certified to overseas territory aviation requirements (OTAR) and international standard for business aircraft operations (IS-BAO) codes of practice.

The company says its engineers have the expertise and resources to handle virtually any maintenance task on a wide range of business jets, turboprops and utility aircraft. In addition, said Goncalves: "We have particular stock allocated for planners monitoring the shifting maintenance requirements of all aircraft."



An increasingly important part of ExecuJet's MRO work is aircraft management. Under this programme, its maintenance supervision department plans and controls all maintenance work on an aircraft to make sure it is carried out correctly and efficiently. This specialist service "provides significant value" to owners of aircraft in the 5,700kg gross take-off weight range and higher, given that maintenance is a major part of operating costs.

The irregular patterns of use on many charter aircraft mean that maintenance and regular checks can be more difficult to plan for them than for their airline counterparts. To overcome this, ExecuJet utilises a continuous airworthiness maintenance programme (CAMP) that records aircraft events and uses the data to produce an overview of predicted maintenance requirements for the year ahead. "We then contact the customer and tell them the maintenance predicted, based on hours or cycles," said Goncalves.

ExecuJet enjoys a niche market in South Africa, generally driven by the aircraft coming into the area. It's a business that supplies "a very good service", in the words of Goncalves, on a range of aircraft types.

Part of the Luxaviation Group, ExecuJet has its roots in Africa, having been founded in Johannesburg, South Africa. The company is now known globally for a range of services in business aviation, running from aircraft charter and sales to MRO and fixed-base operations. It prides itself on being able to provide customers with complete tailored solutions.

"We're competitive with the rest of the world," he said. "ExecuJet services aircraft all over the world: we're a very capable organisation. Everyone is welcome to use our services."



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- GE90
- GENx

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*African governments,  
companies and organisations  
are becoming increasingly  
adept at strengthening their  
security to fend off cyber attacks.  
Now, as Steve Knight reports,  
they face a new threat –  
the rise of the ‘blagger’.*

# THE BLAG MARKET

Cyber-security – particularly in the government and corporate arenas – is improving throughout Africa, forcing some criminals to switch tactics.

Still desperate to acquire sensitive information, a new, plausible breed of law-breaker is now finding ways to physically enter premises to access data and other vital intelligence.

Using a number of different methods, these common (and women) find ways of breaching organisational security using the weakest link – people.

Security specialists are fighting back and now one UK company is offering its services throughout the continent, demonstrating to government organisations and major companies how easy it is for one of its operatives to penetrate their defences.

Leading cyber-security company, C3IA Solutions, based in Dorset, has a number of operatives who carry out this type of ‘penetration testing’. It works in the defence and security sectors, for government departments and within industry – serving both SMEs and multi-national firms.

The specialists use elaborate techniques in order to gain access and trust. They call it ‘social engineering’ and often make use of social media to research and make contact with their targets.

One C3IA Solutions operative, who remains anonymous for obvious reasons, said: “I get asked to try and breach all types of organisations and usually start by researching their staff. I have a number of false identities that I use to make contact with them on social media and on LinkedIn. With this information, I can then decide how best to target the business.

“Often clients want me to take a photo in a

secure part of their premises or access databases or ‘steal’ customer details or invoices. I’ll then pretend to be a new employee or from their IT support and, because I have a bit of knowledge and information, I’m often just waved through.”

This was born out recently when he tailgated another vehicle into the site of a repair and maintenance facility for ‘secure’ emergency services communications systems, took up a ‘hot desk’ seat and interviewed a member of staff on security procedures for 30 minutes, claiming to be an internal auditor.

“The weakest part of any organisation is its people,” said the operative. “They are trained to be helpful, so when someone asks for something their instinct is often to hand it over without question.”



In another recent ‘sting’ operation, the operative posted a CD with a company logo and printed instructions to a software developer, with a request to complete an urgent systems update and send information back to an e-mail address. This was carried out by staff after they had consulted their information security manager (remotely) and been assured the request was legitimate.

“There are numerous other methods I use and, although occasionally I’ll ‘trip the wire’ and get caught, I am usually able to breach security,” explained the operative.

One of the simplest methods of extracting information is vishing (voice phishing – phoning and requesting information). A C3IA operative recently used a number of phone calls to persuade the manager of a ‘secure’ outsourced service desk for a sensitive law

enforcement agency that he was an internal IT auditor. He extracted sensitive information and also arranged to be invited onsite to continue the audit.

“It’s a real eye-opener for some companies as to just what we can do,” said the operative. “Often this type of social engineering activity will be done alongside checking the computer systems by ‘penetration testing’ and means we can provide a detailed security report with recommendations,” he added.

Tactics will change depending on the part of the world in which the company is working.

“It is relatively easy for a UK national to pass himself off as a different kind of UK national in an English-speaking domestic environment,” explained the operative. “However, in Africa, social engineering activities will often be less straightforward and greater preparation, reconnaissance and stealth is required.

“Africa is a vast continent with several distinct cultures, many different languages, and few, if any, unifying themes. Knowledge of local customs in Mombasa may not translate to success in Marrakech. Background research and the addition of intimate local knowledge, therefore, is vital if a task is to be scoped for feasibility and then executed effectively.

“For example, we would observe the pattern of life at a physical security checkpoint and understand the cultural and ethnic variables at play – who gets waived through; who gets a forensic check; what level of language interaction is expected etc?”

“A good example of this is airport security, where there is a reliance on technical countermeasures and methods of detection (e-passports, scanners), a plethora of agencies and moving parts, and the potential to identify

**“Businesses are leaving themselves wide open to attack; proving this by sending in an operative is usually quite an eye-opener.”**

**MATT HORAN**

vulnerabilities in between these sequences of activity.

“In these situations, for the social engineer, the two must-haves are time (to observe, to plan, to exploit an identified vulnerability) and a copy of the ‘Rough Guide’ to an area, to ensure that at least a base level of cultural knowledge is understood and utilised.”

Africa also poses another different problem for the social engineer.

“There is the increased physical danger from the commonality of lawless or ungoverned zones, terrorist organisations, armed populations and routinely armed police and security guard forces, which you may not ordinarily face in the UK or Europe,” explained the operative.

“Using local resources as either advisors or, as appropriate, operators, is an option which may be effective under certain circumstances, but needs to be carefully managed in terms of skill level, knowledge transfer and, of course, duty of care.”

□□□□□

Matt Horan, who founded C3IA Solutions in 2006 with Keith Parsons, added: “We have noticed a sharp rise in demand for our social engineering service. We often tell businesses whose cyber-security we’re responsible for that they are leaving themselves wide open to attack from other areas.

“Proving this by sending in an operative is usually quite an eye-opener for clients and really focuses their minds on their security and training for staff.

“Training, education and improving the awareness of staff can greatly reduce the likelihood of an intruder gaining access and the negative impact should they succeed.”

## Amadou Diallo

Marcelle Nethersole speaks to DHL's CEO for the Middle East and Africa region.

1

■ There is a perceived problem about MRO supply in Africa but DHL seems to have resolved this for its fleet. Can you explain how you manage?

This is not about the type of fleet, but the products that we offer.

DHL has 300 tonnes of capacity per week to the African continent by air. We offer: DHL Same Day; DHL Air Priority, which has a typical transit time of 1-2 days; DHL Air Connect, with a typical transit time of 3-5 days; DHL Air Economy, typical transit time of 5-7 days; DHL Air Thermonet; DHL Air Charter; DHL Airfreight Plus; DHL Door-to-More; and DHL SeAir.

2

■ Many other airlines also depend on DHL when they have an aircraft-on-ground (AOG) incident. Can you tell us about that service you provide?

First, we need to differentiate between AOG and 'real' AOG service. We learned from our customers that approximately 97% of AOG requests did not belong to an AOG situation.

They were used as a service level, meaning urgent need for a delivery within 24-72 hours, but not critical.

If we are talking about a real AOG situation – unexpected/not scheduled landing on remote or not scheduled places where infrastructure could be a problem – to serve our customers in these places it is not enough to provide a 'home service' with a laptop and mobile; you need to have a logistics infrastructure in place.

We at DHL provide a 24/7/365 service based on defined processes and three different service options, including on-board courier (Jetline) and up-to-cost attractive solutions (Speedline).

Where airlines are typically not that efficient is managing the return rotatable part back through the supply chain to the OEM/workshop, and then back into supply for future use. The industry is very good at moving outbound parts to meet AOG criteria in hours, but it seems to take days to get the reverse process completed. Our DHL supply chain teams help airlines manage this cycle to help keep aircraft flying, but also minimise working capital in inventory.

3

■ How do you see the future for MRO providers?

I believe there is a role in the future for independent MROs, but their customers and roles may change.

As an example, customers moving from the airlines to the OEM (for flight hour service solutions); or focusing their MRO activity on more of the legacy aircraft types that will be in service. The larger the business (in terms of hangars around the world) then the more likely that they can match and flex better to volume demands and engineer shortages.

Specialist MROs will increase; for example, repairing the modern composite material aircraft like Airbus A350 and the 737 Max requires different capabilities and skills than repairing an older metal-based Boeing 737 or Boeing 767.

Also, the role of the MRO should increase from pure maintenance into more aftermarket service offerings – otherwise you become a commodity. This business change is where DHL capability from our divisions can really assist the players to meet these new business opportunities

Furthermore, the role of the MRO provider will increase as these smaller airlines 'sell' their MRO operations. However, they will also be selling the 'baggage' of obsolescence and out-of-date skills and facilities (potentially). So buyer beware!

4

■ What does a typical day involve for you?

I think it's important to read, engage and motivate our customers and teams everywhere and every day.

5

■ What challenges do you face in your role as CEO?

The biggest challenge is travelling, as it often means applying for visas, especially for me as a Senegalese passport holder. But I stick to my passport like my heart as am also an Afro-Senegalese patriot.



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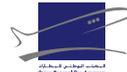
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