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BOHN'S VOYAGE

CEO LEADS AIR SENEGAL
ON AN AMBITIOUS JOURNEY

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VERS UN VOYAGE AMBITIEUX »

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3-4 Rumsey House, Locks Hill, Rochford
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Tel: +44 (0)1702 53 0000
Fax: +44 (0)1702 53 3088

Website: www.africanaerospace.aero

Directors:
Mark Brown & Kevin Sammon

Publisher:
Mark Brown
mark.brown@africanaerospace.aero

Display Advertising:

David Evans Winship
david.evans@africanaerospace.aero

Grant Lee
grant.lee@africanaerospace.aero

Production Coordinator:
Ethan Cobbing
ethan.cobbing@africanaerospace.aero

Circulation Dept:
Clare Brown
clare.brown@africanaerospace.aero

EDITORIAL
news@africanaerospace.aero

Editor-in-Chief: Alan Peaford
Editor: Steve Knight
Deputy Editor: Marcella Nethersole
Francophone Editor: Vincent Chappard
Air Transport Editor: Victoria Moores
Air Transport: Martin Rivers, Alan Dron
Defence: Jon Lake, Alan Warnes,
Business Aviation: Dave Calderwood
Space & Technology: Steve Nichols
Airports & ATM: Alan Dron
Contributors: Patrick Dirksen, Chuck Grieve,
David Oliver, Frank Mink, Chloe Greenbank
News Briefs: In partnership with ch-aviation

REGIONAL CORRESPONDENTS

South Africa: Mark Mansfield, Sam Basch
Namibia, Zimbabwe: Oscar Nkala
Zambia: Humphrey Nkonde
Nigeria: Chukwu Emeke
Ethiopia: Kaleyesus Bekele
Kenya: Githae Mwaniki
Uganda, Rwanda: Hillary Muheebwa
North Africa: Mohamad Al Ahli, Vincent Chappard
Cameroon: Romuald Ngeuyap

Picture Editor: Ian Billingham
Photographers: Mark Wagner, Jamie Hunter,
Tom Gordon
Design: Chris Murray, Allsortz Ltd
Sub Editors: Steve Knight, Kathie Jones
Editorial administration: Petya Ivanova

Editorial head office:
Aerocomm Ltd, Norths, Rectory Road, Orsett
Essex RM16 3JU, UNITED KINGDOM
+44 (0) 208 133 3420

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We must all learn quickly from this tragic accident

The terrible end to Ethiopian Airlines flight ET302 on March 10 was not just a tragedy for African aviation, but for global aviation.

Our thoughts are with the families of the passengers and crew who died in the crash, and to the whole of the Ethiopian team who have conducted themselves so well during the aftermath and global speculation that surrounded it in the weeks following the crash.

How an airline reacts to these worst of times is a much greater indicator of the true culture of the organisation and its leadership than the collection of on-time-performance data. Tewolde GebreMariam was exemplary in his dealings with the media and authorities.

Africa's safety performance over recent years has seen dramatic improvement. Last year, there were zero accidents involving jet transport and passenger-carrying turboprops. Airlines are using new models from the leading manufacturers and feature the latest technologies. It is ironic that this could be the cause of this latest accident.

Boeing is a great manufacturer and delivers great aircraft. But the extra time it took it and the Federal Aviation Authority to understand the concerns of its customers and regulators around the world was not helpful.

Let us hope that all parties from Ethiopian, its trainers, the Ethiopian regulator, Boeing and all of the other stakeholders, will speak honestly

and quickly to get clarity on the circumstances that led to the crash and get the MAX safely back in the sky to begin re-instilling confidence in our industry, which remains the safest means of long-distance transport.

The spirit of open discussion was an underlying theme at the Aviation Africa Summit, which took place in Rwanda just 10 days before the Ethiopian crash.

As you will read in this issue, the event was highly praised as it brought together airline CEOs from both government-owned national carriers and privately owned airlines.

There were government ministers and directors general of the civil aviation authorities. Air chiefs from across Africa were also there. And they shook hands and swapped stories.

Cooperation and collaboration are not things that can be done virtually.

Addressing the barriers to implementation of the single African air transport market (SAATM), and a lack of cross-border collaboration in search-and-rescue, were among the lively topics of discussion.

I left Kigali totally energised and convinced that

Africa's future is bright. I suspect the representatives from 92 countries from around the world – including some 35 from Africa – will have agreed.

The tragedy, 10 days later, was a devastating shock – but it must not be allowed to damage Africa's growing reputation.



Handshake: African Aerospace's Alan Peaford greets Rwandan President, HE Paul Kagame, at the Aviation Africa event.

Alan Peaford,
Editor in chief

COVER: Air Senegal CEO, Philippe Bohn, unveils an exciting new era for the Senegalese national airline. **PICTURE:** BILLYPIX

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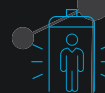
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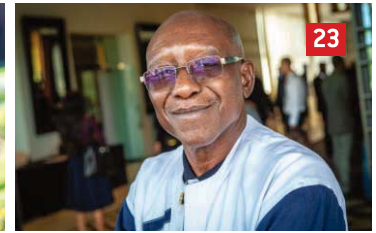
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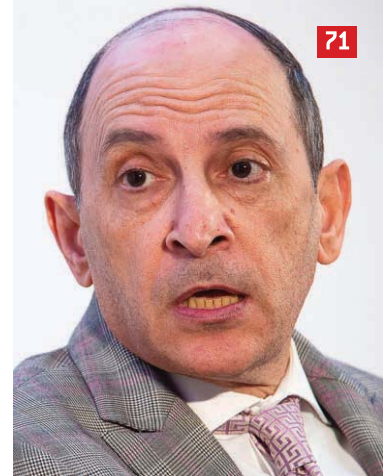
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MEBAA heads for Morocco

The Middle East & North Africa Business Aviation Association (MEBAA) will take business aviation to north Africa in September with the MEBAA Show Morocco.

“The business aviation sector in Morocco shows promising potential,” said MEBAA founder Ali Alnaqbi. “It increases employment and economic opportunities for Morocco and the rest of the region.

“Around 70% of private jet usage is for business purposes, while the remaining 30% is for pleasure. With figures such as this, it’s hardly surprising that the industry has such positive implications.”

Boeing’s soft sell with RAM

Boeing has entered an agreement with Royal Air Maroc to use a suite of Boeing AnalytX-powered crew solutions to bring greater efficiency to the airline’s planning and operations. The airline will be the first in Africa to use the advanced solutions, which include crew pairing, crew rostering and crew tracking – with options to add modules in future.

“We are excited to bring

OR Tambo named best airport for fourth time

OR Tambo International Airport, South Africa’s biggest and busiest port of entry, was named African Airport of the Year at February’s Air Cargo Africa conference and exhibition. This was the fourth time the airport has won the award.

The Air Cargo Africa 2019 event attracted more than 80 international exhibiting companies and more than 3,000 trade visitors from 60 countries, including from 30 African nations.

General manager of the airport, Ms Bongiwwe Pityi-Vokwana, said: “Winning this award demonstrates our commitment to deliver the best infrastructure for our stakeholders. We look forward to continuing to strengthen trade and commerce in our region.”

Around 82% of South Africa’s total air cargo volume of about 400,000 tonnes a year is routed through the airport’s Western Precinct Cargo Terminal, with 92% of the total being international cargo.



the most advanced data analytics capabilities to support Morocco’s flag-carrier,” said Hssane Mounir, senior vice president of commercial marketing for Boeing. “Our crew optimisation solutions were created to help our customers optimise staffing across their entire fleet.”

Ivory Coast orders C295

The Ivory Coast Ministry of Defence has signed a firm order for a C295 medium transport aircraft for use by the country’s air force.

Bernhard Brenner, Airbus Defence and Space head of marketing & sales, said: “The C295 has proven

its outstanding capabilities in the exceptionally harsh sub-Saharan Africa operating environment. The aircraft will be a game-changer for Ivory Coast.”

City-pair record

Gulfstream Aerospace has used sustainable alternative jet fuel (SAJF) to power a record-breaking flight by its super-midsize Gulfstream G280 aircraft.

The pan-American Savannah (Georgia) to Van Nuys (California) journey in January covered 2,245 nautical miles (4,154km) in 4 hours and 49 minutes at an average speed of Mach 0.85. Flying through headwinds averaging 76

knots, the G280 demonstrated the aircraft’s continued high performance with SAJF.

RwandAir deal extended

RwandAir has extended its partnership with Amadeus to adopt technology that will allow its customers to benefit from improved efficiency, a better experience and increased convenience.

Yvonne Manzi Makolo, RwandAir CEO, said: “We are committed to providing an impeccable customer experience that will fuel our continued expansion in the years to come.”

Cape Town expansion

A major expansion of Cape Town International Airport is due to get under way shortly. The main features of the R7 billion (\$500 million) project will be a realigning of the airport’s 3,500 metre runway, with parallel and rapid-exit taxiways.

There will also be a substantial expansion of the international terminal and domestic arrivals terminal, with both projects due to be completed by 2021. The airport has a single terminal, with a central check-in area dividing the domestic and international sections.

The project will allow the airport to handle increasing numbers of passengers. In 2017-18, the last full financial year for which figures are available, 10.7 million passengers passed through the terminal, 5.3% up on the previous year.

SPA pool

Gulf Air and Royal Air Maroc (RAM) have signed a special prorated agreement (SPA) that builds upon the current travel opportunities for passengers of both airlines beyond the hubs of Bahrain International Airport and Casablanca Mohammed V International Airport.

Another Nigerian best performer made in the LABS

Adeola Alade, a graduate of the Landover Aviation Business School (LABS) has been named as the International Air Transport Association (IATA) overall best performer in Nigeria.

Lagos-based LABS also produced the country’s IATA best performer in 2012, 2013, 2014, 2016 and 2017.

Alade, pictured right receiving her award from LABS executive director, Aduke Atiba, said: “This is a dream come true for me. I have started putting some of the things I learnt to use. I now organise tour packages for people because it is in high demand. I am also hoping to register my own travel and tour agency with the Corporate Affairs Commission as soon as possible.”

Landover Aviation Business School is approved by the International Air Transport Association (IATA) and the Nigerian Civil Aviation Authority (NCAA) as an Authorised Training Centre in Nigeria.





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Gambia signs for SAATM

Gambia has signed a memorandum of understanding (MoU) as part of its steps to implement the single African air transport market (SAATM).

The MoU – part of the framework adopted by SAATM member states during the fourth ministerial working group meeting in Lomé, Togo in May 2018 – ensures the removal of any air service agreement restrictions that are not in compliance with the Yamoussoukro Decision.

A sparky challenge

Rolls-Royce has taken on the challenge to build the world's fastest all-electric aircraft. This zero-emissions aircraft is expected to fly at more than 300mph and have a range in excess of 200 miles (Nairobi to Mombasa or Johannesburg to Durban). It will have the most powerful battery ever flown and three lightweight e-motors generating 750kW – enough power to fuel 250 homes – and 1,000 horsepower.

Rolls-Royce will make history when this first fully electric aircraft, with a wingspan of 24ft, takes to the skies in 2020 after 24 months of development.

Angola fighter deliveries begin

Deliveries of Sukhoi Su-30KNs fighter aircraft to the Força Aérea Nacional de Angola (FANA – National Air Force of Angola) have begun.

Four aircraft had been delivered by the end of 2018. The first of the 12 aircraft destined for Angola made its first flight after overhaul in early February 2017, leading to deliveries of pairs of aircraft in September and November 2018.

The remaining eight aircraft have been



Emirates celebrates Ghana milestone

Emirates celebrated a milestone in its operation to Ghana in January, marking 15 years of service to Accra. The first Emirates flight flew into Kotoka International Airport in January 2004, and the airline has since carried close to 1.6 million passengers between Accra and Dubai.

"Africa is one of Emirates' key growth regions in its global network and Ghana is an important market for Emirates," said Cathy Wesley, Emirates country manager. "In 2018, Emirates carried more than 180,000 passengers between Accra and Dubai, and we are committed to facilitating trade, tourism and cargo exports in the years to come."

upgraded and painted in Angolan camouflage, but they remain stored at the 558th Aircraft Repair Plant at Baranovich in Belarus.

Angola originally placed a \$1 billion order for Russian defence equipment, including 12 Su-30K fighters, in October 2013.

GebreMariam – an influential man

Tewelde GebreMariam, group CEO of Ethiopian Airlines, has been named as one of the most influential people of African descent in the category of business and entrepreneurship at The Most Influential People of African Descent (MIPAD) awards.

GebreMariam said: "My recognition is a tribute to the hardworking Ethiopian employees, ardent management members, the board and the government of Ethiopia at large. The award attests to the incredibly important role Ethiopian Airlines plays in the integration of Africa through a robust business."



Ngcwabe adds the human touch for ATNS

South Africa-based Air Traffic and Navigation Services (ATNS) SOC has appointed Lulekwa Ngcwabe, as its new human resources executive.

ATNS said its philosophy is to create shared accountability for development and learning for its employees.

Interim ATNS CEO, Thomas Kgokolo, said: "The intention is to afford all staff opportunities to learn and develop, either within their immediate sphere or beyond the simplest daily job routine. This inevitably means that our company is depending on its employees to identify, create and make use of available opportunities to develop themselves beyond traditional work-based training, as retention of staff is key. This is one of Ms Ngcwabe's mandates – to entrench this philosophy within ATNS."

Kenyon partners with MEBA

UK-based Kenyon International Emergency Services has extended its partnership with MEBA.

The partnership will support MEBA members to better mitigate the various risks involving flights and business disruptions, while assisting members to meet international and local aviation regulatory requirements.

Member benefits include, but are not limited to, a free draft emergency response plan (ERP) from Kenyon, discounted ERP writing support, retaining Kenyon at a special fee, free crisis consultation, discounted training courses, and free entry into the annual crisis management workshop hosted by MEBA and Kenyon.

Airbus certifies CHT refuel unit

Airbus has successfully completed the certification flight tests for the A400M cargo hold tanks (CHT) refuelling unit, taking a new step towards the full certification of the aircraft for air-to-air refuelling operations as a tanker.

The campaign, performed together with the Spanish Air Force Test Centre (CLAEX), featured nine flights where 90 tonnes of fuel were dispensed to Spanish Air Force F-18 receivers and to another A400M prototype as a representative heavy aircraft receiver.

The test campaign included the development and certification of the CHT with the latest fuel quantity management system software, to be certified this year, enhancement of the night refuelling vision system, and preliminary testing of helicopter air-to-air refuelling capabilities.

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Ethiopia expands US network

Ethiopian Airlines will re-structure its US network, opening a new destination, adding frequencies and shifting gateways in the summer of 2019.

Group CEO, Tewolde GebreMariam, said: "The US is among our most important markets owing to the presence of a large African community and growing business and tourism ties with Africa. Our new route structure, with additional frequencies to multiple gateways, and the opening of a new route to Houston, are aimed at responding to the market demand and creating the best possible connectivity to more than 60 African destinations.

737 MAX for RAM

Boeing has delivered the first 737 MAX for Royal Air Maroc (RAM), which – once the ban on the type is lifted (see page 15) – plans to use the fuel-efficient, longer-range version of the popular 737 jet to expand and modernise its fleet.

"These new 737 MAX aircraft expands our medium-haul portfolio, which forms the backbone of our fleet," said RAM CEO Abdelhamid Addou.

"Our choice of this aircraft is in line with our strategy of continuously expanding and modernising our fleet."

CemAir stays grounded

CemAir has lost its application bid with the Johannesburg High Court to overturn a decision grounding its operations.

This follows another South African Civil Aviation Authority resolution on January 11 to ground the carrier's flights, citing safety concerns.

CAA spokesperson, Phindiwe Gwebu, said: "The decision paves the

way for the CAA audit team to demand the return of the certificate of the worthiness for the grounded aircraft, as well as to proceed with the recommendation to the director of civil aviation that CemAir's permission is revoked."

Green Africa in \$11.7bn order

Green Africa Airways has announced a commitment for up to 100 737 MAX 8 aircraft, evenly split into 50 firm aircraft and 50 options, as the airline gears up to begin commercial operations. The total deal carries a list-price of \$11.7 billion, the largest aircraft agreement from Africa, and will be reflected on Boeing's orders and deliveries website once finalised.

Babawande Afolabi, CEO, Green Africa Airways, said: "This deal is a bold symbol of the dynamism, resilience and soaring entrepreneurial drive of the next generation of Nigerians and Africans."

Cheque this out

South African Airways (SAA), Voyager and Nedbank have launched a first-in-the-world cheque card that guarantees users earn air miles with every transactional swipe.



Air Senegal's first A330neo arrives in Dakar

Air Senegal's first A330neo touched down at Blaise-Diagne International Airport in Dakar in January.

Painted in the livery of Air Senegal and named 'Casamance' it was presented during a ceremony attended by Macky Sall, President of the Republic of Senegal, and Philippe Bohn, chief executive officer Air Senegal.

Air Senegal plans to operate its first A330neo on the soon-to-be-opened Dakar-Paris route and develop its medium and long-haul network.

The A330neo incorporates highly efficient new generation Rolls-Royce Trent 7000 engines, and a new greater span 3D optimised wing with new sharklets.

Rolls-Royce joined delegates from the government of Senegal and Airbus at the ceremony celebrating the arrival. The Rolls-Royce TotalCare team are pictured with Philippe Bohn.

Kayanakis steps up

Dassault Aviation has appointed Jean Kayanakis to a newly created position of senior vice president, worldwide Falcon customer service & service center network.

The new role encompasses responsibility for customer service activities, Dassault's service centre network organisations, plus the operational and pilot support department.



"This is a new, comprehensive approach to customer service at Dassault Aviation and Jean is the right person to lead the effort," said Eric Trappier, president and CEO. "He has a complete vision of the customer service experience, a strong legacy of achievements, and he is very well appreciated by our customers and his teams."

Botswana boosted by pioneer programmes

The Airbus Foundation, together with its partners – The Little Engineer and Dare to Dream – has launched the Airbus Little Engineer robotics programme in Botswana.

The goal is to encourage learners to understand and embrace technology, and ignite passion that could grow into a career in the fields of science, technology, engineering and mathematics (STEM).

During its first year, the programme aims to reach more than a thousand 10 to 16-year-olds from urban and rural areas across the southern African country.

The organisation's founder, Captain Kgomotso Phatsima, said: "The inherent and extensive nature of science, innovation, engineering and aerospace technology offers boundless possibilities and opportunities for Botswana and its socio-economic development."



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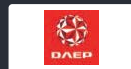
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On the spot: Tewolde GebreMariam inspects the site of the disaster and, inset, faces the world's press.

PICTURE: DANIEL GETACHEW

Tragedy must not diminish Africa's progress

The fatal crash of Ethiopian Airlines Flight 302 on March 10 from Addis Ababa to Nairobi was the first in Africa for a jetliner in several years.

Alan Peaford
reports.

A few years ago, the crash of an African airliner into African soil would have barely made news. But today things are very different.

The latest International Air Transport Association (IATA) statistics showed African carriers with the best safety performance in the world in 2018 with zero accidents for its jet fleets. The continent's airlines are no longer in the market for battered old cast-offs but, instead, are leading the way with the latest models.

The Boeing 737MAX 8 that carried ET302 and its 157 passengers was not even four months old. It was commanded by an experienced crew with a relatively freshly graduated first officer paired with the veteran captain.

Just minutes into the climb from Bole Airport, the pilot told controllers he was having control problems before the aircraft crashed at Bishoftu as he attempted to make an emergency return to the international airport just a few kilometres away.

Ethiopian has been an African success story. It has the largest and youngest fleet of any African carrier and was the first to take delivery of the Boeing 787 Dreamliner and the 757 freighter – investing in expanding and modernising its fleet. The average age of the Ethiopian fleet is just 5.4 years, compared to 13.5 for British Airways, 15 years for United Airlines and 10.7 for American Airlines.

The airline's CEO, Tewolde GebreMariam, was filmed visiting the crash site; emotionally offering sympathy and condolences to the families of the 157 dead from 35 different countries, as well as to the airline family for the loss of the crew.

He did not shy away from questions but, instead, told news reporters about the mayday message from the captain as he tried to return the aircraft to a safe landing.

The chilling words from the captain echoed those from the Lion Air MAX8 captain last year when flight JT610 crashed on October 29, killing 189 people.

At the time, Nurcahyo Utomo, aviation head at Indonesia's National Transport Safety Committee, told the BBC that "several problems occurred simultaneously" during the flight, including problems with measuring air speed and altitude, and with the stick shaker.

The similarities were too great. Ethiopian grounded its MAX8 fleet. China, the UK and the Cayman Islands followed.



In the US the concerns were dismissed. The Federal Aviation Administration (FAA) cited insufficient evidence to ground the fleet; the US carriers – a major part of the global fleet – expressed full confidence in the aircraft and Boeing too. While expressing condolences for the human loss, they continued to argue the aircraft was safe.

US media focused on the inexperience of the crew, questioned training and maintenance issues. But recovery of the flight data and cockpit voice recorders, along with some satellite tracking data, showed even more similarities between the Lion Air and Ethiopian disasters, with both demonstrating erratic sudden climbs and descents.

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The EU and Canada banned the MAX8 from their skies and US President Donald Trump added his weight to the cries of the US public. The FAA responded with a blanket grounding, while adding that Boeing was working on a software fix for installation in the next few weeks as a result of findings from the Lion Air inquiry.

It appeared the problem lay with the manoeuvring characteristics augmentation system (MCAS) – an automated safety feature designed to automatically prevent the plane from entering into a stall, or losing lift, by bringing the nose down if the system thought the angle of attack was too great.

Ethiopia, knowing that it had insufficient resources to conduct the inquiry, elected to send the 'black boxes' to Europe, with the experienced French investigators leading the analysis.

Ethiopia's Transport Minister, Dagnawit Moges, said that preliminary data retrieved from the flight data recorder showed "a clear similarity" to the Indonesian crash.

Following Moges' remarks, Boeing CEO, Dennis Muilenburg, said the company "continues to support the investigation, and is working with authorities to evaluate new information as it becomes available".

In the statement issued by the company he said: "Boeing is finalising its development of a previously announced software update and pilot training revision that will address the MCAS flight control law's behaviour in response to erroneous sensor inputs."

*Senegal is once again spreading its wings
with an ambitious new flag-carrier.*

Martin Rivers talked to the architects of the airline's
business plan, *Philippe Bohn and Jerome Maillet.*

THIRD TIME LUCKY?

«Une nouvelle ère pour Air Sénégal » – Page 20

Outside expertise: Philippe Bohn
and Jerome Maillet.



When Air Senegal began operations in May 2018, it marked the west African nation's third attempt at a state-owned flag-carrier.

The failure of predecessors Air Senegal International and Senegal Airlines would come as little surprise to anyone familiar with the challenges of African aviation.

Senegal has a relatively small air transport market: just 2.3 million passengers pass through Dakar's Blaise Diagne International Airport, its main hub, each year.

The country's population of 16 million would be a limiting factor even in the developed world, where most people can afford to fly. In the developing world, it makes running a commercial airline all but impossible.

Yet closed skies are not an option for Macky Sall, Senegal's president, who was re-elected in February with a mandate to further advance his plan Senegal emergent (PSE) – a 20-year economic and social strategy aimed at delivering long-term prosperity.

Like any macroeconomic plan, the PSE encompasses heavy investment in the transportation sectors – maritime, road, rail

and aviation – to keep goods and people circulating around the country. Without upgrading the national infrastructure in this way, Sall has no hope of maintaining the 6% annual growth rate that has so far accompanied his seven-year premiership.

Mindful of the failed ventures of previous governments, the president has, therefore, put two foreign experts – Philippe Bohn and Jerome Maillet – in charge of his flagship project, the national airline.



Their mandate is to make Air Senegal a profitable, sustainable parastatal. And their strategy has two fundamental pillars: commercial credibility, which reduces the burden on the state by opening the door to international financing; and long-haul expansion, which liberates the company from the boundaries of its niche home region.

“One has to be very pragmatic and realistic, and that's what we are,” chief executive Bohn explained. “We have to adapt to the reality of our market if we want to have a chance.

“So what has been proposed to the

government is not [the model adopted by] lots of airlines in Africa. Usually, when a government wants an airline they put in equity, they spend all the cash on the operations, and after a few years the government is fed up with providing cash – and the airline collapses. We approached the issue totally differently. It comes into a strategy. It's rational.”

Bohn described the Dakar-Paris trunk route, which is bilaterally restricted to seven flights per week each by one French and one Senegalese carrier, as the “backbone” of the operation.

Air Senegal entered the city-pair in February with a wet-leased Airbus A340, pending the imminent delivery of its own A330-900neo. It took over the daily route from France's Corsair, which had been granted a temporary designation in lieu of a viable Senegalese operator. With Air France providing the only competition, demand easily outstrips supply on the route and Air Senegal's load factor has already reached 78%.

That compares with about 60% for its regional network, which comprises eight west African points (Abidjan, Ivory Coast; Bamako, Mali; Banjul, Gambia; Bissau, Guinea-Bissau; Conakry, Guinea; Cotonou, Benin; Ouagadougou, Burkina Faso; and Praia, Cape



The French connection

Having spent much of his life working alongside African business leaders and government officials, Philippe Bohn has a philosophical approach to strategising.

“You have engineers who are building bridges, engineers who are building aircraft, engineers who are building roads,” he mused. “And to build decisions you have to have an engineering process.”

The doctrine was not always focused inwardly. Bohn held senior roles at EADS, Airbus’ parent, from 2003 to 2011, leading its sales in Africa before becoming head of business development. His powers of persuasion were applied to heads-of-state as far apart as Libya and South Africa, landing billions of dollars of contracts.

Before joining EADS, he climbed the ladder at utilities firm Vivendi Environnement and energy giant Elf Aquitaine. “All my life I worked in Africa,” he said. “Not only in Africa, but always in Africa.”

Bohn’s passion for the continent is matched by Jerome Maillet, a self-professed “serial entrepreneur”, who, after graduating from France’s National School of Civil Aviation (ENAC) and starting his career in the aviation finance department of the French bank, Societe Generale, helped establish three African flag carriers – Air Cote d’Ivoire, Congo Airways and Air Senegal – in less than a decade. Maillet was also a founding member of Spain’s Volotea.

“[The reason] why Jerome and myself have been asked to set up this company is we know the market,” Bohn emphasised. “We know the financial players, we know the statal players, we know the manufacturers of aircraft... We know them all, and they know us.”

Verde) plus Ziguinchor in the south of Senegal.

“We define ourselves as a long-haul carrier also doing regional flights,” noted chief strategy and investment officer Maillet.

“The key point is that we directly tap the long-haul market. Most of the time African carriers have been prevented from entering this market, because they lack access to the debt financing from international institutions. And usually they don’t have the operational capability from the outset.”



The commercial spoils of flying to Paris are well understood in capital cities across Francophone Africa, but few local players have the wherewithal to compete with Air France. When Cameroon’s Camair-Co grounded its Paris route in 2016, for example, management blamed financial restrictions that had forced the airline to deploy an ageing 767 with low fuel efficiency, reduced operational reliability and spartan on-board service.

Sall’s heavy capital investment – starting with 40 billion CFA Central African Francs (\$68.4 million) fully paid up, rising to as much as 100

billion CFA by 2022 – puts Air Senegal in a different league.

The funding allowed the company to place a firm order for two A330-900neos, becoming only the second airline in the world to deploy the next-generation wide-body. The first unit was delivered in March and the second is due in September.

“Buying an aircraft is like buying a building. It’s a sustainable investment,” Bohn said, projecting an annual return on investment of 6.8% over 30 years if the asset is deployed optimally. “We decided, very simply, to propose a strategy where we are going to create, I would say, a debt of investment. That will allow the company to make acquisitions of strong assets... which are very good value, and which we are going to operate on a very profitable route.”

Maillet admitted, though, that Paris is the “easy game” when it comes to long-haul connections: “The market is there. You just have to take it. Now, going to other routes, it’s more [likely to be] two or three weekly services.”

Both executives were tight-lipped about the next wide-body routes, insisting that feasibility studies are ongoing.



CONTINUED FROM PAGE 17

“We are all very fond of the American dream,” Bohn smirked. “However, the question is, ‘Is this dream sustainable for our airline, and for our next aircraft?’ Probably. But still to be confirmed.”

Confidential documents provided to the airline’s financiers, and seen by *African Aerospace*, are more revealing.

They show six additional long-haul markets in the proposed route network for 2022: New York JFK, London Heathrow, Toulouse, Dubai, Beirut, and Sao Paulo. Expansion of that order presupposes that options on another two A330neos will be firmed up – a decision that is due to be taken later this year.

Route selections will ultimately be guided by talks with local partners. If a codeshare agreement cannot be struck in JFK, for example, Washington DC may be favoured instead.

“Wherever we go, whatever continent we go to, we have to find a partnership with a partner airline,” Jerome said, pointing to Air Senegal’s interline agreement with Air France. “We don’t make war with others.”

Shifting currents in Senegal’s business landscape will also be a consideration. “The oil and gas business is going to create significant flows,” Bohn predicted, citing recent offshore oil discoveries. “All these engineers and foreign workers, who are going to come into Senegal to develop this industry – where are they coming from?”

He hinted that BP’s contracts in the country might strengthen the case for a London route.

Further afield, not every long-haul market is going to be served with wide-body metal. Management are now looking closely at leasing an A321LR, a stretched variant of the A320 family with an extended flying range of 7,400km. Bohn described the aircraft as “interesting from a conceptual point of view”, while Maillet said it is a “perfect fit” for Air Senegal.

“It opens up more opportunities to go to North America, South America and to the Middle East with the same cost per seat and half the commercial risk,” he noted.

Two more European destinations – in southern France or Italy – are also being evaluated for this year. Those routes would be served by the A319 fleet, which will grow to three units in May.

Despite the challenges in its home region, Air Senegal remains committed to expansion across west and central Africa. Its 2022 projection identifies 10 markets of interest: Accra, Ghana;

The power behind the neo

The ‘neo’ designation on the latest A330 models is for ‘new engine option’ with the Airbus wide-body being exclusively powered by Rolls-Royce’s Trent 7000.

Although its heritage comes through the original Trent 700, which powers the classic A330, it is light years ahead when it comes to technology, featuring architecture from the Trent 1000 TEN, which powers the latest versions of the Boeing 787.

There are also clear links to the Trent XWB, which powers the A350 and has been described as the world’s most efficient large civil engine.

Like all technology leaps, Rolls-Royce faced early production challenges with getting the industrial ramp-up moving, but the company has been meeting all delivery targets and has been on schedule for its three African customers – Air Senegal, Air Mauritius and RwandAir – according to a spokesperson.

The Trent 7000 is delivering 10% fuel savings over the Trent 700 with twice the bypass ratio and has also provided a significant reduction in noise.

The Trent 7000 technologies has led Airbus to a 12% fuel burn improvement with the A330neo meeting both current and proposed future emissions standards for aero engines, as well as those for noise.

Each Trent 7000 is made up of more than 20,000 parts and includes a fan case just under 10ft in diameter – wider than the fuselage of Concorde.

The force on a fan blade at take-off is equivalent to a load of almost 90 tons, the same as nine London buses hanging off each blade, according to the UK manufacturer.

An aircraft for the future: Air Senegal is only the second airline in the world to take delivery of the next-generation A330-900neo wide-body.



Brazzaville and Pointe-Noire, Congo-Brazzaville; Douala, Cameroon; Freetown, Sierra Leone; Kinshasa, the Democratic Republic of the Congo; Lagos, Nigeria; Libreville, Gabon; Monrovia, Liberia; and Niamey, Niger.

“We need the regional flights,” Maillet insisted. “It is not profitable at the bottom-line level, but you cover your variable costs and you contribute to your fixed costs. So it contributes to your system. The short-haul feeds the long-haul.”

Fifth-freedom routings help to keep losses down, and Air Senegal also uses a pair of 70-seat ATR 72s in its thinnest markets. Yet there is still too little demand to share between all the region’s airlines.

Partnerships have, therefore, become a top priority.

Air Cote d’Ivoire is one natural ally given Maillet’s prior involvement with the company. As well as signing an extensive codeshare agreement, the Ivorian flag-carrier has sub-leased an A319 to Air Senegal for its Dakar-Abidjan sector. The partners also use a shared pool of Ivorian and Senegalese pilots, who are authorised to fly under both national registries.

To the west, Cabo Verde Airlines has a block-space agreement for 60% of the seats on Air Senegal’s Dakar-Praia route. It is now considering sub-contracting Air Senegal to fly between Sal and Lisbon.

The final piece of the puzzle is privatisation. The government hopes to sell up to 49% of the flag-carrier to strategic investors, aligning its fortunes with a larger airline group or financial institution. Maillet believes this is achievable if the company meets its target of EBITDAR – earnings before interest, tax, depreciation, and either restructuring or rent costs – profitability next year and full operating profit in 2022.

A Middle Eastern investor is considered the best fit, as European and African players might see a conflict in Air Senegal’s long-haul aspirations. That was part of the problem with Royal Air Maroc’s failed investment in Senegal’s first flag-carrier.

Nonetheless, all options are on the table and the final decision rests with the shareholder.

“Our duty is to propose to our government what we think is a good strategy. We are tools in the toolbox. We never forget that,” Bohn concluded. “I hope we are good tools, but we are in the toolbox of the decision-maker.” ■

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Une nouvelle ère pour Air Sénégal

La compagnie nationale sénégalaise déploie ses ailes dans le ciel africain avec une stratégie conquérante. Un tour d'horizon avec Vincent Chappard et Martin Rivers.

Air Sénégal SA a finalement lancé sa première route long-courrier entre Paris et Dakar comme prévu le premier février dernier. Celle-ci a cependant été opérée sans son nouvel A330neo.

Elle devait prendre livraison de son premier A330neo le 31 janvier à Toulouse puis effectuer un vol inaugural vers Dakar. Toutefois, la compagnie sénégalaise a dû revoir ses plans à quelques jours de l'inauguration de cette nouvelle route.

Selon Philippe Bohn, le directeur général d'Air Sénégal, il n'y a pas eu de « retard contractuel pour la livraison de l'avion avec Airbus ». Mais des aléas ont induit « un glissement sur la mise en service commercial » de l'A330neo d'Air Sénégal. A noter qu'Airbus et Rolls-Royce ont assuré la présentation officielle du premier A330neo d'Air Sénégal le 31 janvier dernier en présence du président de la République du Sénégal, Macky Sall.

La compagnie a démarré la liaison Dakar/Paris avec un A340 loué auprès de la société Hi-Fly le premier février. L'A330neo a été livré le 8 mars dernier avec un vol de convoyage de Toulouse à Dakar. Air Sénégal a procédé à sa mise en service vers Paris dès le lendemain.

■ Une renaissance tant attendue

Le décollage d'Air Sénégal SA était annoncé depuis de nombreuses années et devait coïncider avec la mise en service le 9 décembre 2017 de l'aéroport international Blaise Diagne de Dakar.

Face aux difficultés rencontrées, les autorités sénégalaises choisirent de confier cette mission à un homme expérimenté : Philippe Bohn. Dès son arrivée, il s'attela avec son équipe à remettre à flot la compagnie et lancer les opérations commerciales. Il choisit un autre spécialiste du secteur aéronautique, Jérôme Maillet, pour le secondier dans cette mission.

Comme aime à le rappeler Philippe Bohn, c'est avant tout un travail collectif. La réussite dépend donc de l'efficacité de chaque maillon de la chaîne.

Le Sénégal a vainement tenté ces dernières années de remettre sur pied une compagnie aérienne. Les autorités et en particulier le président Macky Sall, semblent avoir réuni cette fois-ci les conditions nécessaires pour la réussite de la nouvelle compagnie nationale. L'injection de moyens financiers et un engagement très fort de l'État démontrent sans conteste une ambition stratégique car le transport aérien est reconnu comme un levier de croissance indispensable pour le pays.



Présentation de l'A330neo en présence du président de la République du Sénégal, Macky Sall.

■ Bâtir une compagnie solide et pérenne

Après 15 mois, les équipes ont redémarré une nouvelle compagnie, de façon autonome et sans partenaire.

Pour Philippe Bohn, l'objectif est de construire une compagnie aérienne solide répondant aux meilleures normes internationales. Sa vision est en droit fil avec la stratégie globale et cohérente du Sénégal, d'émergence économique par le développement des capacités à faire circuler les biens et les personnes.

« Il est important de débiter notre activité commerciale avec des avions neufs, fiables et économiques, tout en offrant à nos passagers un confort inégalé », souligne le DG.

Air Sénégal a opéré son premier vol commercial le 14 mai 2018 sur la route Dakar-Ziguinchor dès l'obtention du certificat de transporteur aérien. Ces vols domestiques ont permis de mettre en place l'organisation adéquate pour assurer et pérenniser les opérations.

La compagnie a lancé des vols régionaux en octobre 2018 avec deux A319 en location. « La mise en place des routes régionales contribue à démontrer notre sérieux et à développer progressivement nos capacités opérationnelles », explique Philippe Bohn.

■ Une rentabilité en 2022

L'acquisition des deux A330neo est un engagement financier important pour Air Sénégal. Philippe Bohn et Jérôme Maillet espèrent atteindre un objectif : réaliser un chiffre d'affaires de 110 millions d'euros en 2019 et le tripler d'ici à 2022, année de l'équilibre financier.

Le DG estime qu'il est préférable de créer une dette productive basée sur le fonctionnement des actifs de la compagnie. « Il vaut mieux opérer une route avec un actif de qualité sur une route à forte rentabilité. » L'axe Paris-Dakar reste le cœur de la stratégie d'Air Sénégal.

La compagnie relie aujourd'hui la capitale sénégalaise à Abidjan, Bamako, Banjul, Bissau, Conakry, Cotonou, Praia et Ziguinchor avec deux Airbus A319 et deux ATR 72-600.

Philippe Bohn met en exergue « la bonne exécution du business plan » pour sa première année d'exploitation. « Le produit et la marque s'installent progressivement. La clé est de pouvoir continuellement s'adapter au marché régional pour savoir quel avion opérer sur quelle route. Nous voulons construire un réseau avec sérieux et rigueur. » Il ajoute que la compagnie « doit encore étoffer sa politique commerciale ».

Air Sénégal ne souhaite pas entrer dans des logiques d'affrontement avec les compagnies aériennes concurrentes. A ce jour, Air Sénégal est en code-share avec Air Côte d'Ivoire, en accord « Interline » avec Cabo Verde Airline et Air France ainsi qu'en discussion avancée avec Aigle Azur et Congo Airways. Des échanges avec des compagnies du Moyen-Orient, d'Amérique du Nord et du Sud ont été initiés. »

■ Les enjeux pour 2019/2020

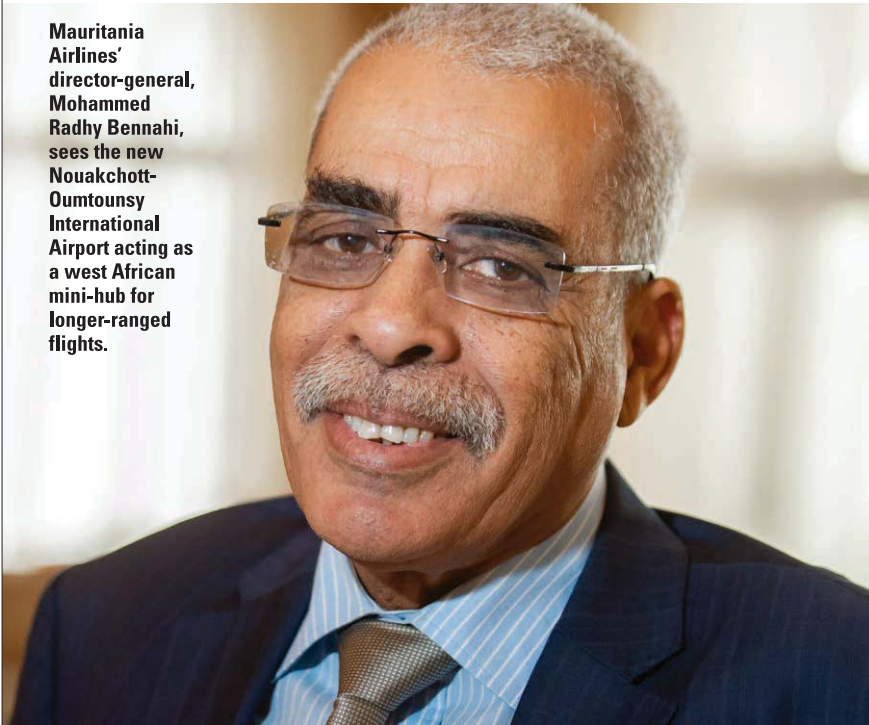
Philippe Bohn estime qu'il y aura un mouvement de consolidation dans l'industrie du transport aérien. Il fera évoluer son business model pour répondre aux besoins et aux impératifs. « Notre objectif est de monter une compagnie aérienne crédible, solide et opérationnelle capable de participer à ce mouvement. »

Air Sénégal souhaite avant tout poursuivre son expansion sur les routes intercontinentales à forte rentabilité. L'arrivée du second A330neo (Sine Saloum) est prévue en été 2019. Cet avion pourra desservir plusieurs destinations notamment : New York, Sao Paulo, Londres et Dubaï.

Elle compte également ouvrir son capital à moyen terme pour lever des fonds auprès d'investisseurs. Le porte-drapeau sénégalais est au cœur du Plan Sénégal Émergent (PSE) pour ériger un véritable hub aérien régional. ■

Mauritania Airlines is rapidly expanding its route network, but one of the major prizes still remains tantalisingly out of reach. Alan Dron reports.

Mauritania Airlines' director-general, Mohammed Radhy Bennahi, sees the new Nouakchott-Oumtounsy International Airport acting as a west African mini-hub for longer-ranged flights.



Mauritania looks to strike a Paris match

The apron at Nouakchott-Oumtounsy International Airport is growing steadily more busy as Mauritania Airlines ramps up the number of destinations it serves in west and central Africa.

Mauritania's national carrier was set up in 2010 after two previous airlines carrying the country's flag had collapsed in the previous decade.

In the past year, Brazzaville, Dakar, Cotonou, Freetown and Libreville are among the destinations that have started to appear on the destination boards at the recently completed Nouakchott-Oumtounsy.

More African cities are destined to join the network in the next few years, the airline's director-general, Mohammed Radhy Bennahi, said, but one location to which his airline would like to operate – Paris Charles De Gaulle – “is still under study and negotiations”.

The Paris route was previously served, but suspended in 2015 for commercial reasons. With Mauritania being a Francophone nation, it is a natural one for the airline to wish to restore.

Part of the problem behind the delay is that Bennahi is aware that the Mauritanian capital does not, by itself, generate sufficient traffic to make a Paris flight viable. For that reason, he envisages using Nouakchott as a hub, gathering passengers there from elsewhere on the company's route network, before setting off on a connecting flight to the French capital.

Also on the route ‘wish list’ is Jeddah, for Moslem passengers heading to the Saudi Arabian city on Haj and Umrah pilgrimages.

Bennahi envisages the Jeddah route being a scheduled, but seasonal, service. As with Paris, he believes that Nouakchott could serve as a concentration point for passengers from other west African originating points.

To handle the growing route network, the airline is going through modest additions to its fleet. The company is largely a Boeing 737 operator; until recently, it flew two 737-500s, plus single examples of the -700 and -800. A single Embraer ERJ-145 regional jet completed the inventory.

Over the past year, however, the two 737-500s have been retired and more new aircraft were expected as *African Aerospace* was going to press. “We’ve already ordered two Embraer E175s that are scheduled to be joining the fleet by the end of March 2019,” said Bennahi.

The Embraers will mainly operate on domestic and short-haul international routes, such as Las Palmas in the Canary Islands.

Domestically, the airline operates to Nouadhibou and Zouérate; other destinations, such as Kiffa and Néma, are being considered.

□□□□□

The most significant addition to the fleet came in December 2017 with the arrival of a Boeing 737 MAX 8 – the first of the latest generation of the Boeing twinjets to be delivered to Africa and a matter of some pride for the airline. It operates with a two-class configuration, 16 business-class and 144 economy-class seats. The company is in talks with Boeing over the acquisition of a second MAX 8.

The Gulf carriers and Turkish, which are all making hefty inroads into the African market, are not direct competitors, but regional rivals include Air Ivoire, Royal Air Maroc and the Ethiopian Airlines-backed Asky Airlines.

Despite this, Mauritania's passenger numbers and load factors are increasing, said Bennahi. Its best-performing route is not an obvious one, namely Nouakchott–Tunis. This, explained the director-general, was due to medical tourism bound for the Tunisian capital.

Profitability continued to be elusive, “but we’re almost at break-even”, said Bennahi. If it was not for the substantial increase in fuel prices over the past 18 months, profitability might already have been achieved. The cost of fuel is likely to remain one of the company's greatest challenges in 2019.

Another challenge is the remoteness of Mauritania, which also makes maintenance problematical: “It’s not so easy to bring in spares in an aircraft-on-ground (AOG) case,” said Bennahi.

However, the company is proud of the fact that, in 2018, it once again passed the International Air Transport Association operational safety audit (IOSA). Those companies that have IOSA certification have a markedly better safety record than those that do not.

Profits may not yet have been achieved but continuing to operate in one of the world's most remote regions, with a tiny domestic passenger base, is no small achievement in itself.



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Ouagadougou-based Air Burkina has just completed a fleet upgrade and is preparing to strengthen its network as the government begins to study options for re-privatising the airline. Victoria Moores reports.

Air Burkina eyes regional expansion

Air Burkina, which was originally known as Air Volta, has been operating continuously since 1967. “We have never stopped,” said Air Burkina director of management control and internal audit, Youssouf Zongo.

A lot has changed since Zongo joined Air Burkina in February 1992.

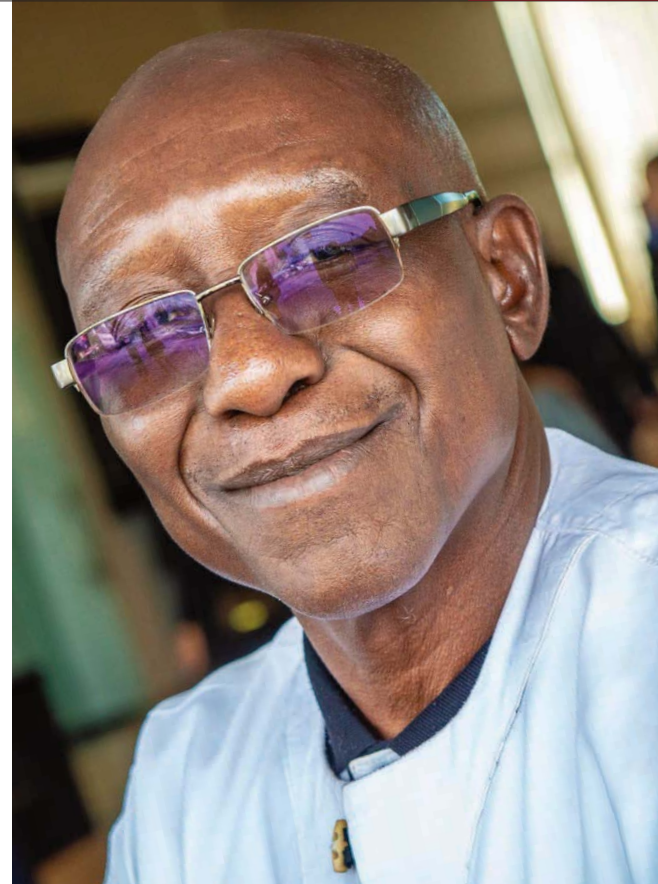
The airline was privatised in 2001, when the Aga Khan Fund for Economic Development (AKFED) and IPS(WA) consortium came on board as a shareholder alongside the Burkina Faso Government. However, the airline was returned to state ownership in May 2017.

Zongo said the government is now looking to re-privatise. “Studies are in progress,” he said. The airline will be privatised once the analysis is complete, with further news expected during 2019. “There’s no deadline, but the objective is there,” he said.

In the meantime, Air Burkina has been refreshing its fleet. Since November, the airline has taken delivery of two Embraer E195s and one E175, leased from regional aircraft specialist Nordic Aviation Capital (NAC).

The Embraers replaced a wet-leased Bombardier CRJ900, which has since been returned, and an Embraer 170 that is now undergoing engine maintenance. Air Burkina hopes to buy the E170 from AKFED.

The airline plans to use the additional capacity to



Youssouf Zongo: “We want to consolidate and establish the financial situation for the company as our first objective.”

increase frequencies on its existing routes, which comprise Abidjan (Ivory Coast), Accra (Ghana), Bamako (Mali), Bobo-Dioulasso (Burkina Faso), Cotonou (Benin), Dakar (Senegal), Lomé (Togo) and Niamey (Niger).

Zongo said the airline is also looking to add new destinations in central and western Africa from the second half of 2019. Specifically, Air Burkina is planning to add flights to Abuja (Nigeria), Conakry (Guinea), Libreville (Gabon) and Pointe-Noire (Republic of the Congo).

By 2022-23, the five-year leases on the new Embraers will be coming to an end. Around that time, Zongo said,

Air Burkina plans to be operating five to six aircraft.

“We want to consolidate and establish the financial situation for the company as our first objective,” he added.

He stressed that Air Burkina plays an important role for the development of Burkina Faso, especially given its geographical location as a landlocked country.

The carrier’s priority is opening up Burkina Faso to the rest of the world, transporting people and goods to boost the national economy. ■

SOMMAIRE

UNE EXPANSION RÉGIONALE POUR AIR BURKINA

Air Burkina, connue auparavant comme Air Volta, opère de manière continue depuis 1967. La compagnie aérienne a été privatisée en 2001, lorsque l’AKFED et IPS (WA) sont devenus actionnaires aux côtés du gouvernement burkinabé. Air Burkina a été renationalisée en mai 2017.

Youssouf Zongo, directeur du contrôle de gestion d’Air Burkina, a déclaré que le gouvernement cherche de nouveau à privatiser la compagnie.

Air Burkina a entre-temps modernisé sa flotte d’avions. Depuis novembre dernier, la compagnie a pris livraison de deux E195 et un E175 loués auprès de Nordic Aviation Capital (NAC). Ils ont remplacé un CRJ900 et un Embraer 170 dont les moteurs sont en cours de maintenance. Air Burkina espère faire l’acquisition de l’E170 d’AKFED.

La compagnie basée à Ouagadougou projette d’augmenter sa capacité pour accroître les fréquences sur ses liaisons

existantes : Abidjan (Côte d’Ivoire), Accra (Ghana), Bamako (Mali), Bobo-Dioulasso (Burkina Faso), Cotonou (Bénin), Dakar (Sénégal), Lomé (Togo) et Niamey (Niger).

Pour Youssouf Zongo, Air Burkina prévoit également d’ajouter de nouvelles destinations en Afrique centrale et occidentale à partir du second semestre de 2019 notamment vers Abuja (Nigeria), Conakry (Guinée), Libreville (Gabon) et Pointe-Noire (République du Congo). Le bail des nouveaux Embraer arriveront à terme d’ici 2022-2023, période à laquelle la compagnie compte opérer cinq à six avions. La priorité demeure la consolidation (y compris financière) de la compagnie.

Air Burkina joue un rôle majeur dans le développement du pays en raison de sa situation géographique et de son enclavement. Sa mission première est d’ouvrir le pays au reste du monde, de transporter des personnes et des biens pour relancer l’économie nationale. ■



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Camair-Co a connu une véritable embellie en 2018. Romuald Touembou Ngueyap et Vincent Chappard ont voulu savoir davantage sur le dynamisme et les ambitions de la compagnie nationale camerounaise auprès d'Ernest Dikoum, son directeur général depuis 2016.

CAMAIR-CO VA DE MIEUX EN MIEUX

Camair-Co a affiché une belle performance en 2018 avec une hausse de 62% de son chiffre d'affaires, un trafic passager atteignant 343 000 passagers et une réduction de sa perte d'exploitation.

La compagnie nationale camerounaise compte progressivement se diriger vers un rééquilibrage financier.

« Notre bilan est aujourd'hui plutôt encourageant même si la compagnie n'a pas encore atteint sa vitesse de croisière », souligne Ernest Dikoum.

Le DG de Camair-Co a dû mettre en place un plan de redressement musclé depuis son arrivée. La compagnie était au bord de la faillite avec une dette d'environ 49 millions d'euros.

« J'ai trouvé une entreprise en grande difficulté mais avec un énorme potentiel », soutient Ernest Dikoum. « Nous travaillons tous ensemble au redressement de la compagnie dans le respect des orientations du plan élaboré par Boeing Consulting et validé par le chef de l'Etat, S.E. Paul Biya. »

La première mesure était la réduction du déficit de Camair-Co. « Nous avons suspendu les opérations sur certaines dessertes régionales pour mieux consolider notre réseau domestique via notre campagne Le Cameroun d'abord. »

Cette mesure a permis une augmentation du flux de passagers entre les villes à l'intérieur du Cameroun. Cela a eu comme effet de dynamiser la demande locale pour ensuite encourager un meilleur déploiement sur le régional.

Camair-Co dessert sept villes camerounaises (Bafoussam, Bamenda, Douala, Garoua, Maroua, Ngaoundéré et Yaoundé) à travers environ 150 vols hebdomadaires. Un léger fléchissement du taux de remplissage a cependant été noté, passant de 65 à 54%.

La compagnie a pu ensuite reprendre progressivement ses dessertes régionales. Elle opère vers sept destinations sur le continent africain nommément Abidjan, Bangui, Cotonou, Dakar, Lagos, Libreville et Ndjamena. Elle a ainsi fait un grand retour sur le sol nigérian en juin 2018.



Camair-Co a dû également procéder à la rationalisation de ses effectifs. Selon la compagnie nationale, cet exercice s'est fait sans plan social et dans le respect de la réglementation en vigueur. En deux ans, le nombre de salariés est passé de 814 à 563.

L'extension de son réseau passe aussi par le renforcement de sa flotte d'avions. Camair-Co dispose d'un B767-300ER, deux B737-700 NG, deux MA60 et d'un Bombardier Q400 en service depuis mai 2018.



Les trois MA60 (dont un affecté à l'armée de l'air) ont cumulé plus de 5000 heures de vol sans incident majeur en trois ans.

En janvier 2018, le B767-300 a effectué une visite technique chez Ethiopian Airlines à Addis-Abeba. Camair-Co a entamé des démarches pour la reprise prochaine de cet avion pour des vols intercontinentaux. La première route sera Paris puis suivront progressivement Bruxelles, Londres et Washington comme prévu dans le plan de redressement.

Pour Ernest Dikoum, 2018 aura assurément été une année de croissance et cette progression doit être maintenue. L'amélioration de la régularité et de la ponctualité des vols, une offre commerciale attractive grâce aux interconnexions directes entre les réseaux

domestiques et régionaux sont des facteurs ayant contribué à cette embellie.

Après des études approfondies, la compagnie a annoncé l'ouverture de nouvelles routes vers Bamako au Mali et Brazzaville au Congo en 2019 avec un prolongement vers Kinshasa en RDC. Johannesburg et Paris figurent également dans le plan d'expansion.

« L'Afrique est un réel levier de croissance pour Camair-Co et les perspectives sont prometteuses », affirme Ernest Dikoum.

Le renforcement de la flotte est l'un des axes majeurs du plan de redressement. C'est un processus qui nécessite des moyens financiers importants et qui se poursuivra en fonction des opportunités. Selon Ernest Dikoum, des négociations ont été engagées dans ce sens.

L'accroissement de la flotte d'avions va de pair avec celui des PNC et des pilotes. Camair-Co prévoit ainsi de consolider rapidement ses équipages pour optimiser davantage l'utilisation de ses avions surtout dans un environnement concurrentiel.

Camair-co fait face à une concurrence venant particulièrement de Rwandair, d'Asky Airlines, de Tchadia Airlines, d'Afrijet et d'Air Côte d'Ivoire. Air Algérie a annoncé des vols vers Douala avec un prolongement à Libreville. Congo Airways a inauguré une nouvelle route Kinshasa-Douala-Cotonou. Egyptair et Tunisair sont attendues au premier semestre 2019.



“ J’ai trouvé une entreprise en grande difficulté mais avec un énorme potentiel. ”
ERNEST DIKOU

SUMMARY

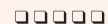
CAMAIR-CO GOES FROM STRENGTH TO STRENGTH

Cameroonian national airline, Camair-Co, posted a good performance in 2018 with a 62% increase in turnover, passenger traffic reaching 343,000, and a reduction in its operating loss, report Romuald Touembou Ngueyap and Vincent Chappard.

“Our assessment is encouraging, even if the company has not yet reached cruising speed,” said CEO, Ernest Dikoum.

Since joining the company in 2016, the CEO has put in place a strong recovery plan for a company that was on the brink of bankruptcy with a debt of around €49 million (\$55.7m).

“I joined a company in great difficulty but with enormous potential,” said Dikoum. “We are working on recovery following the business plan developed by Boeing Consulting and validated by Cameroon’s head-of-state, Paul Biya. “The first priority was to reduce Camair-Co’s debt, so we suspended operations on some regional services and consolidated our home network. This increased the flow of passengers between the country’s major cities – Yaounde, Douala, Garoua, Maroua, Ngaoundere, Bafoussam and Bamenda – and boosted local demand, thanks to running around 150 weekly flights, albeit with a slight drop in load factors.



“The company was then able to gradually resume its regional services to seven destinations on the African continent, including Libreville, Bangui, N’Djamena, Dakar, Abidjan, Cotonou and Lagos.”

The extension of the network also involved strengthening the aircraft fleet.

Since the beginning of Q2, Camair-Co’s fleet has included a B767-300ER; two B737-700 NGs; two MA60s; and a Bombardier Q400.

In January 2018, the airline decided to introduce the B767-300ER on to new intercontinental routes, starting with Paris. It is hoped that this will be followed by flights to Brussels, London and Washington.

The airline expects to benefit from carrying delegates attending the 51st African Airlines Association (AFRAA) General Assembly at the end of 2019 in Yaoundé.

Camair-Co intends to pursue its strategy of regional development and consolidation and is planning new routes to Bamako in Mali and Brazzaville in Congo in 2019 with an extension to Kinshasa in the DRC. Johannesburg and Paris are also included in the expansion plan.

Camair-Co faces competition from RwandAir, Asky Airlines and Air Côte d’Ivoire, while newcomers, Chadia Airlines and Afrijet, are also expanding. Other potential threats come from Air Algeria, which has announced flights to Douala with an extension to Libreville, and Congo Airways, which has inaugurated a new Kinshasa-Douala-Cotonou route. ■

L’autre enjeu pour Camair-Co était de renouveler sa certification IOSA avec l’aide d’Aviation Quality Services GmbH. Ernest Dikoum avait précisé en novembre 2018 que des écarts avait été constatés suite à l’audit. La compagnie a levé ces écarts auprès de l’IATA. Elle est de nouveau certifiée IOSA depuis le 30 janvier dernier.

Le transport aérien mondial fait face aux effets de la hausse du prix du kérosène depuis plusieurs années. Camair-Co n’est guère épargnée. Elle ressent les impacts sur ses coûts d’exploitation.

Toutefois, face à un contexte international difficile, la compagnie fait preuve de résilience, de rigueur et d’efficacité pour optimiser et pérenniser ses résultats. Pour cela, il faudra selon Ernest Dikoum de la patience. « Le point d’équilibre sera atteint lorsque nous serons sortis du processus de restructuration pour entamer la phase de développement. » Une équipe dédiée de Camair-Co travaillait

depuis plusieurs mois pour assurer le transport aérien durant la Coupe d’Afrique des Nations de football qui devait se dérouler au Cameroun en juin 2019. Or, ce fut un coup dur le 30 novembre dernier quand le comité organisateur a annoncé que l’édition 2019 ne pouvait se tenir dans le pays. Plusieurs raisons ont été évoquées dont la sécurité et l’écart existant entre les exigences et les obligations du cahier des charges de la CAN et la réalité du terrain.

Par ailleurs, le Cameroun a été choisi pour accueillir fin 2019 à Yaoundé, la 51ème assemblée générale de l’AFRAA.

Fort de l’évolution positive des principaux indicateurs, le porte-drapeau camerounais compte bel et bien développer tout son potentiel durant les prochaines années.

Camair-Co espère devenir une compagnie aérienne de référence en Afrique avec les meilleurs standards internationaux en matière de sécurité, de qualité de service, de formation et d’innovation. ■

*Most African airline CEOs are tasked with reaching profitability. LAM Mozambique director general, João Carlos Pó Jorge, is no different. However, he also had to completely rebuild staff morale from absolute rock bottom – not once, but twice, as **Victoria Moores** discovered.*

A MORALE VICTORY...

If you think of the toughest experiences airline employees can go through, a fatal air crash when that accident could have been pilot suicide, or a financial grounding, would probably top the list.

Staff at LAM Mozambique have been through both.

“I wanted to meet the people working for the airline but not the way I did,” said João Carlos Pó Jorge. “I arrived on the 15th. The accident was on 29th [November 2013].”

At the time, he had just rejoined LAM as chief operating officer (COO).

A one-year-old LAM Embraer 190 had taken off from Maputo bound for Luanda, Angola. The wreckage was found in Bwabwata National Park in Namibia. None of the six crew and 27 passengers survived.

“The inputs to the auto-flight systems by the crew member, believed to be the captain, who remained alone in the cockpit when the person, believed to be the co-pilot, requested to go to the lavatory, caused the aircraft to depart from cruise flight to a sustained controlled descent and subsequent collision with the terrain,” says the final accident report.

The captain had manually changed the altitude three times, ending at 592 feet, and altered the speed until it was close to the aircraft’s maximum operating limit. Pilot suicide was suspected, yet questions remain.

“The accident is still non-conclusive,” Pó Jorge said. “There are very strong indications of a similarity with Germanwings [a pilot-suicide] but, in the case of Germanwings, we have palpable substantiation. In this case, we couldn’t find anything.”

The events of that day brought mental health into sharp focus. “I met every crew [member],

every day, to make sure the pilots were willing to fly. I said don’t fly... if you’re not prepared, don’t fly.”

LAM’s insurers covered the cost of the accident. A South African Boeing 737-300 was brought in and the operational impact was minimal. LAM had no competitors. Costs increased, but not significantly.

However, the psychological impact was huge. “For LAM, it was terrible, because we hadn’t had a significant accident for many, many years. We’d had small losses, but not like that one.”

Pó Jorge has a long history with LAM. He joined as an engineering intern in July 1983, leaving more than a decade later in June 1995. After that, he became United Technologies assistant customer service manager for Africa. He rejoined LAM in 2013, this time as COO, just as the accident happened, and left again in February 2016, although he continued as an advisor.



By July 2018, LAM Mozambique was struggling to pay essential bills, like fuel and landing fees. Demand had been expected to grow, but commodity prices went down, delaying big oil and gas projects. LAM kept postponing three 737-700s that it had on order, but high-cost historic debts and the economic downturn created “very, very strong” financial pressure.

“Some days, we didn’t fly,” Pó Jorge said. This affected customer confidence, reducing demand even further. Then Fastjet arrived as a new competitor in late 2017, forcing LAM to cut ticket prices.

After the most recent grounding on July 5, the government removed the entire board and Pó Jorge was hired as CEO. Once again, he found

himself in the middle of a crisis. Things did not look good and morale was low.

The brief for his 18-month term, which runs until January 2020, was clear. The government wanted a safe airline, with satisfied customers and – at the very least – breakeven financial results.

But Pó Jorge had seen how the grounding had affected LAM’s staff and this was his top priority. “I said I needed two weeks.”

In that time, Pó Jorge travelled to nearly all the airline’s stations and spoke to every member of staff, either in person or by phone. He recognised the emotional impact of the grounding. “The employees, of course, were very shocked. They had no information about where the airline was going,” he explained.

Pó Jorge believes in people. The airline had no money, yet he took a gamble and gave his staff a 10% pay rise.

“This was actually one of the first steps that I took with the shareholders. I am very pleased they accepted it. We increased wages. I said ‘look, the current situation of the balance sheet doesn’t justify this but I will promise that they will produce this [money] in the first three months.’ They did it, you know, it was amazing.”

This act of faith boosted staff morale. “I really didn’t do much, but the [airline] reliability went from ‘very bad’ to 90%,” Pó Jorge said.

The savings in passenger hotel bills alone were enough to offset the higher salaries. “From an accounting point of view, that was immediately justifiable.”

Until September 30, LAM’s schedule was being rewritten almost every other day. A new schedule was published and, this time, it stuck. LAM regained some fuel supplies, tankered fuel, or carried limited loads.



“I think the main thing is that people realise this is going to become a nice place to work.”
 JOÃO CARLOS PÓ JORGE

By November 2018, reliability was tracking at around 90%, but Pó Jorge remains realistic. “Mid-80s is good for us. We have restrictions. We can’t actually access everything we want. We can’t just pick up the phone and say ‘bring an aircraft’ – our balance sheet doesn’t support that.”

However, cost savings need to come from somewhere. LAM employs around 900 people and operates just four aircraft. “That’s quite a lot of people who are employed per flight, per aircraft,” he admitted.



Rather than chasing small cost savings with high emotional impact, Pó Jorge is focusing on gentler – but significant – corporate savings, such as phone costs, global distribution service (GDS) booking oversight and fuel efficiency.

“Lots of booking were being made and not ticketed, so we did automatic cancellations. We can save several tens of thousands of dollars just by asking travel agencies to be more accountable. We also introduced a fuel-savings programme. We had one, but it was not followed. We didn’t monitor it – now we are monitoring it.”

LAM is planning to form a joint-venture for its airport lounges and perform more third-party

New aircraft on the way?

LAM kept delaying the three Boeing 737NGs that it ordered in 2014, for delivery in 2016, until Boeing said it was no longer planning to produce NGs.

“We kept pushing delivery of the aircraft to the right. Given time, we lost the ability to finance them because of the economic changes in Mozambique. Then, we missed the opportunity to take delivery of the NGs because they were discontinued,” Pó Jorge explained.

Around 18 months ago, Boeing and LAM converted the order to three 737 MAX8s for delivery in 2022. “The contract is there. We’re looking at the market – and it sounds like there will be a market,” Pó Jorge said.

If demand does not pick up, LAM may need to renegotiate the 737 MAX order. “We have to take the decision two years before, in 2020. That’s when we’ll have to pay the pre-delivery payments.”

By 2021, LAM wants to operate four Bombardier Q400s and four 737s.

work, like aircraft cleaning, to use the people it has more effectively. This has become even more important since the government opened the domestic market to foreign competitors, like Ethiopian Airlines’ new Mozambique airline.

“I went to Ethiopia in late September and my offer was to cooperate, probably by doing a schedule to tie-in with their Addis Ababa hub, feeding them passengers and cargo. If that doesn’t work, we’ll probably go to other big networks, like Kenya Airways or Emirates.”

Pó Jorge is also looking for cooperation within LAM, asking his staff to make peace with one another. Tensions have been high, because people had to fight for the resources to do their jobs. “Our meetings start with saying hello, good morning, thank you and I’m sorry,” he said.

The psychologists, who were originally brought in after the E190 accident, hold weekly mental-health meetings. “Just last Thursday, I had my own consultation. He said there’s about six to eight people, every session, asking for personal consultations.”

LAM has turned its culture around. Going to the psychologist used to be seen as a negative, but now it is actively encouraged. “I’m very pleased with that,” Pó Jorge said. “I think that’s the main thing, that people realise this is going to become a nice place to work.”

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 **BOEING**

Air Côte d'Ivoire poursuit son plan de développement. Le business plan 2019-2028 gardera la même stratégie avec un accent sur le long-courrier », a déclaré son DG, René Décurey, que Vincent Chappard et Anuradha Deenapanray ont rencontré à Paris.

UNE OUVERTURE VERS LE LONG COURRIER

«Air Côte d'Ivoire looks to
long-haul » – Page 33

René Décurey était en France pour des discussions avec la banque africaine de développement (BAD) qui selon lui est d'un soutien financier indispensable pour l'industrie aéronautique et du transport aérien sur le continent.

Après une phase de lancement « réussie », la compagnie continue ses opérations dans « un secteur d'activité complexe et fortement capitalistique ». Cependant, Air Côte d'Ivoire persévère et poursuit son développement pour atteindre un équilibre financier, assurer sa stabilité et consolider son rôle de catalyseur du hub d'Abidjan.

La compagnie est « le leader du transport aérien en Afrique de l'Ouest et du Centre avec 54% de part de marché », souligne son DG. Il ajoute que la compagnie apporte 46% de trafic à l'aéroport d'Abidjan et permet à l'ensemble des acteurs du transport aérien (aéroport, handling, fret et catering) et à l'économie du pays de prospérer.

Air Côte d'Ivoire a récemment émis un communiqué pour répondre à certaines allégations de « manquements dans la gestion de la compagnie et la perte cumulée de 65,5 milliards de FCFA (environ 99 millions d'euros) par un audit » pour « restituer la réalité de sa situation financière » et mettre fin « à la suspicion ».



René Décurey a expliqué les raisons des pertes accumulées à la fin de l'exercice financier 2017 à African Aerospace.

« Conformément au plan d'affaires adopté par le conseil d'administration, dans ses phases de création, de lancement et de développement, les pertes cumulées prévues étaient de 60,2 milliards de FCFA (environ 91 millions d'euros) à la fin de l'exercice 2017. Cette prévision tenait compte de plusieurs hypothèses majeures dont l'évolution du prix du baril de pétrole et le renouvellement de la flotte finalisé au 31 décembre 2016 », soutient-il.

Cependant, à la fin de l'exercice 2017 et avec un prix du baril bien plus important que prévu et le

Continuer à
la page 33



« Nous sommes
quasiment en ligne avec
notre business plan. »
RENÉ DÉCUREY

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Un A320neo d'Air Côte d'Ivoire aux couleurs du drapeau national.



SUITE DE LA PAGE 31

renouvellement de la flotte toujours en cours, le total des pertes cumulées montrait une différence de cinq milliards de FCFA (environ 7,6 millions d'euros) sur les cinq ans.

« Nous sommes quasiment en ligne avec notre business plan. Franchement, je ne pense pas qu'on puisse dire qu'il y avait des manquements de stratégie et de gestion. »

Flotte et partenariat

Le business plan prévoyait également la fin du renouvellement de la flotte pour 2016. Toutefois, dit-il « la complexité de mise en œuvre du financement ont fait bouger cette hypothèse fondamentale de cinq ans ». En effet, le premier A320neo sera livré en juillet 2020 et les deux autres en 2021.

Le renouvellement de la flotte permettra à la compagnie d'étoffer ses fréquences de son réseau régional pour rendre le hub d'Abidjan encore plus attractif. « Ces avions plus performants permettront à Air Côte d'Ivoire de faire des économies substantielles en carburant et en coûts de maintenance. » Cette consolidation passera nécessairement par le long-courrier vers l'Europe, les Etats-Unis et l'Amérique Latine à horizon 2021.

A noter que la compagnie sous-loue un A319 à Air Sénégal avec l'avantage de ne pas ajouter de la surcapacité sur les routes. « C'est un partenariat opérationnel et commercial très important car nous sommes en code share. Il s'agit d'un pas en avant vers la complémentarité et l'intégration », souligne René Décurey.

C'est « un vœu politique » d'avoir Ethiopian comme partenaire car la compagnie permet des vols directs jusqu'aux Etats-Unis. Air Côte d'Ivoire est ouverte à toute offre de partenariat et prospecte le Burkina et le Mali. « Nous voulons établir un réseau régional efficace, rentable et pérenne. »

Il se veut par ailleurs rassurant. Le sens de l'écoute et le soutien du gouvernement ivoirien ainsi que « la bonne gouvernance depuis cinq ans » sont des atouts majeurs pour la stabilité d'Air Côte d'Ivoire.

La taxe, le mal du secteur aérien en Afrique

René Décurey est catégorique. « Ce n'est pas le ciel ouvert qui résoudra les problèmes mais l'allègement des charges et des taxes des divers États et des opérateurs aéroportuaires qui sont trop élevées. »

C'est primordial pour rendre le coût des billets plus compétitif, améliorer la connectivité, augmenter l'attractivité des pays et dynamiser leurs économies.

Malgré sa bonne performance commerciale, Air Côte d'Ivoire fait face au poids des tarifs élevés des entreprises évoluant en situation de monopole sur l'aéroport d'Abidjan et dans la région.

Selon Air Côte d'Ivoire, une meilleure répartition de la richesse créée par la compagnie entre les différents intervenants est « une condition sine qua non pour garantir sa profitabilité ». Les discussions sur l'épineux problème de taxe et de charges qui freine le développement du transport aérien en Afrique sont bien engagées. « On va vers des solutions. »

Abordant dans ce sens, Laurent Loukou, directeur général adjoint d'Air Côte d'Ivoire, partenaire d'Air France-KLM, a récemment affirmé à l'AFP que « le modèle commercial est une réussite, mais pour arriver à la rentabilité, il faut une meilleure répartition de la richesse créée ».

Il a également dénoncé « les redevances et les taxes trop élevées ».

Cela a entraîné la disparition de 42 compagnies nationales dans cette région (de Nouakchott à Kinshasa) de 2000 à 2018.

Air Côte d'Ivoire maintient son cap. Elle réaffirme son engagement à consolider son rôle de vecteur majeur du développement de la Côte d'Ivoire et de l'intégration africaine. ■

Une compagnie solide dans la région

Créée en 2012 après la faillite d'Air Ivoire, Air Côte d'Ivoire est détenue à 58% par l'Etat ivoirien, à 23% par le groupe privé ivoirien Goldenrod, à 11% par Air France et à 8% par la Banque ouest-africaine de développement.

Air Côte d'Ivoire couvre aujourd'hui 23 destinations, dessert déjà 20 capitales et compte dans sa flotte 10 avions dont 6 en acquisition. Elle représente 650 emplois directs et plus de 3000 emplois indirects.

SUMMARY

AIR CÔTE D'IVOIRE LOOKS TO LONG-HAUL

Air Côte d'Ivoire's business plan for the next 10 years maintains the current strategy but with an increased emphasis on long-haul, according to CEO, René Décurey.

He explained that, despite financial pressures caused by an unexpected rise in fuel and fleet renewal costs, the business plan still allows for the first Airbus A320neo to be delivered in July 2020 and the remaining two in 2021.

Fleet renewal will allow the company to expand frequencies on its regional network.

Decurey said: "These better-performing aircraft will enable us to save substantial fuel and maintenance costs and to introduce long-haul flights."

The airline sub-leases an A319 to Air Senegal and he said this was an important operational and commercial partnership because it was a codeshare agreement.

Decurey also said that it was a "political wish" to have Ethiopian Airways as a partner, because that would facilitate direct flights to the United States.

Air Côte d'Ivoire is also open to other partnership offers and is examining opportunities in Burkina Faso and Mali.

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Decurey said: "We want to establish an efficient, profitable and sustainable regional network, and support from the Ivorian Government for the five-year plan is a major asset for the stability of the airline."

He explained that the airline also wanted high taxes and tariffs eased. "This is essential to make the cost of tickets more competitive, improve connectivity and to increase the attractiveness of countries and boost their economies," he said. "Despite our good commercial performance, Air Côte d'Ivoire still faces the weight of high tariffs from companies operating in the monopoly airport of Abidjan and in the region."

However, he added, there is movement towards solutions.

Recent comments by Laurent Loukou, deputy general manager of Air France-KLM and Air Côte d'Ivoire partner, were welcomed by Decurey. Loukou told news agency, AFP: "The business model is a success, but to achieve profitability you need a better distribution of wealth. Taxes are simply too high and this has resulted in the disappearance of 42 national companies in the region – from Nouakchott to Kinshasa – between 2000 and 2018."

Air Côte d'Ivoire was created in 2012 and is 58% owned by the Ivorian state, 23% by the Ivorian private group, Goldenrod, 11% by Air France, and 8% by the West African Development Bank.

It currently covers 23 destinations, serving 20 capitals and has 10 aircraft in its fleet, including six on order. ■



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-  info@afriair.com
-  +1 305.255.6973
-  +1 305.255.4064
-  www.afriair.com
-  13551 sw 132nd ave.
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Ghana's air force in a class of its own

The Ghana Armed Forces have a small but capable air force. The key to its success is training, as Patrick Dirksen and Frank Mink found out during a recent visit.

Air Vice Marshal Maxwell Mantserbi-Tei Nagai, the Ghana Air Force (GAF) chief of air staff, is absolutely clear about his force's role.

"Our primary job is supporting the army and the navy. Next to that we assist with governmental issues, like disaster management," he said. "We also help the police and Ghana Gas.

"However, our main role is supporting the army with troop transport, airborne forces, paradropping, fighter ground attack and close air support with the helicopters."

Interestingly, aerial photography, transporting the yield from gold mines, and carrying electoral commission personnel during elections also fall under the force's remit.

The GAF's main air base is at Accra. Two of its recently acquired C295s now fly with the Communication Squadron, having replaced the venerable Fokker F-27s. These aircraft have been put through their paces in Mali, where the Ghanaian forces played a big role in the United Nations mission MINUSMA.

A terrorist attack at Gao in 2016, damaging a C295, put an end to that deployment. The aircraft is now operational again. "We fixed it," said the air vice marshal. "After the bombing, the pilots ran an engine check on the ground and then took

A highly experienced commander

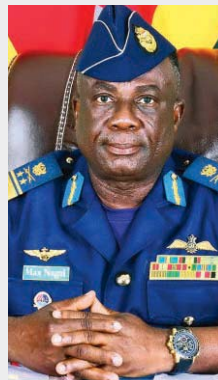
Air Vice Marshal Maxwell Mantserbi-Tei Nagai has been GAF chief of air staff since January 2016.

He graduated at the Military Academy, Whistler Barracks, Accra in April 1980.

He received his wings in 1990 and has accumulated 6,400

flying hours – most on helicopters, including Alouette III, Agusta A109, Bell 412, Mil Mi-17/171 and Harbin Z-9. He also flew the Diamond DA42.

Nagai was formerly commander of the helicopter squadron at Accra AFB, commanding officer of the flying wing at Accra, base commander at Takoradi AFB and later at Accra AFB. He also acted as chief air operations officer during the UN mission UNIKOM in Kuwait and was commander of the Ghana Aviation Unit during two periods of the UN Peacekeeping Operation in La Cote d'Ivoire (UNOCI).



off and checked the systems. When that was OK, we backloaded it to Tamale and then finally to Accra. We got support from Airbus, and we fixed it in situ, here in the hangar."

Although the damage was caused while being operated for the UN, Ghana had to pay the €1.2 million (\$1.38m) repair bill. When asked about future UN involvement, Nagai was clear: "We have been getting requests from the UN to support, mainly with the helicopter operations in Mali, but, right now, we are not in position to do so. Possibly, when we get new acquisitions, like Mi-35s, then we can consider supporting the UN again. But, for now, we have too much work meeting our own internal demands."

Ghana has participated in dozens of UN and Economic Community of West African States (ECOWAS) missions since the 60s, and helicopters also played a big role.

A recent example was in neighbouring Cote d'Ivoire during the genocide, where A109 helicopters were used as gunships and Bell 412s for troop transport. These have, nowadays, been replaced by Z-9 and Mi-17/171 helicopters.

All helicopters are operated by 3 Squadron and are based at Accra AFB. The main roles of the four Z-9s are gas pipeline and powerline patrols, coastal

Continued
on Page 36

One of the two surveillance Diamond DA42s.
Inset: Two of the female DA42 pilots. PICTURE: GAF.



fishery patrols and ambulance flights. “The Z-9 has two stretchers, so it can be used as an ambulance. If the numbers are higher, we go to the Mi-17, which has six stretchers,” said Nagai.

Six Mi-17 and Mi-171 ‘Hip’ helicopters also fly with 3 Squadron, replacing the Bell 412 in the troop-lift role.

A few years ago, negotiations were held with Rosoboronexport in Russia about the possible sale of Mi-35s. “At the time, the threat level was assessed and it was felt that a few gunships would be needed. However, funding turned out to be a problem and, when the security situation changed, it was decided to exchange the planned three Mi-35s for some Mi-171s instead,” explained Nagai. “But the deal is still in the pipeline.”

The Hips are equipped with Nightsun searchlights and a hoist. They can carry sling loads and be armed with an AKS74 gun on a swivel. The cockpit is not digital but it is night vision goggles (NVG)-capable.

There are no plans to upgrade the aircraft. “Suggestions have been made to configure them into some more sophisticated weapons system. But that means we have to ground them, pack them and send them off for maintenance, repair and overhaul (MRO), which would take a lot of time. And we need the aircraft now,” explained Nagai.

Also flying from Accra AFB are the K-8s of 4 Squadron that have replaced the L-39 and MB339.

“The home base of the squadron is supposed to be in Tamale but, at the time that they arrived, it was not positioned to receive them. Maybe they will move there now; we are thinking about it if the leadership academy is pulled through,” said Nagai.

“The role of the aircraft is strike and fast reconnaissance, mostly on border patrols. They can be armed for fighter-ground attack. For their training, we have a live firing range at Bundase, close to Accra. Since we coordinate with the army during combat, we do air power combat fire training together.”

K-8 pilots are selected from the fixed-wing training classes and are sent to China for the K-8 conversion.

Ever since Takoradi AFB was taken over from the British RAF in 1961, the flying training school (FTS) has been based there.

The first aircraft to fly there were Chipmunks donated by the RAF. Later on, Beavers, Otters and Caribous were used.



The FTS still has venerable Cessna 172s, although these haven’t flown for years. Initial flying training is now completed on a Diamond DA42, operated by 1 Squadron.

After a selection process in Accra, student pilots get their initial 10 hours of flying experience on the DA42 before they are sent to Bristow Academy for helicopter pilots or the Flight Safety Academy for fixed-wing pilots, both in the US.

After the period overseas, students destined for the fixed-wing squadrons return to Takoradi for follow-up training on the DA42, while the helicopter pilots go directly to their squadron.

No 1 Squadron operates three DA42s. Of these, one (registered GHF120) fulfils the training role while the other two (GHF121 and 122) are dedicated surveillance aircraft. A DA42 simulator has also been procured from Diamond

to facilitate instrument flying training and in-flight failure training.

The GAF’s intelligence, surveillance and reconnaissance (ISR) capability comes from the two surveillance DA42s, which are both equipped with the SAFIRE sensor suite. The aircraft were modified in the UK by DO Systems, which also supplied a dedicated DA42 crewman trainer simulator.

Their main roles are maritime surveillance, reconnaissance and internal security operations for the police forces. A regular crew consists of one pilot and one crewman, who operates the sensors.

A typical maritime surveillance mission can take up to 12 hours and can be flown in both day and night under visual flight rules (VFR) and instrument flight rules (IFR) conditions. The Hawkeye system allows real-time transmission of sensor data.

The Diamonds also contribute to the international organisation, Oceans Beyond Piracy. Together with the Ivory Coast, Togo, Benin and Nigeria, Ghana is responsible for Zone E and Zone F in the Gulf of Guinea. “There is cooperation between the navies and among the air forces in securing the coasts of these countries, so we do joint exercises at sea with the navy, with helicopters, for example, rappelling the special forces on to the ships,” said Nagai.

The Diamond is also fighting against drug trafficking: “One time, it had to fly 350 nautical miles out to sea to bust a cocaine ship,” said Nagai. “This mothership was anchored and was offloading goods on to smaller ships. With collaboration of the British and the Americans they got spotted. The navy could only go to 200nm, so we scrambled the Diamond and it



The Mi-171 carrying the Ghanaian flag. .
Top right: Fire crew training at the School of Trade Training at Accra.
Right: The K-8 strike aircraft.

PICTURES: GAF



took the pictures that were needed as evidence.”

There is also a Z-9 detachment at Takoradi, operating under 1 Squadron.

“Their base is in Accra but, at any time, we have one or two Z-9s in Takoradi, just in case Ghana Gas requires assistance.”

Besides operational aircraft, Takoradi AFB also houses a newly built Air Force Recruit Training School. Operational since July 2018, it carries out basic military training for new airmen as well as on-the-job training for when they pass out. Also, all personnel will be trained there to be sent out for future United Nations missions.

Every year between five and 15 student pilots get their wings.

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Furthermore there is cooperation with the outside world regarding technicians, as Nagai explained: “The Accra-based University of Ghana started running an aerospace engineering programme. They requested a decommissioned aircraft that could be used as a mock-up training device. So we delivered an MB339 and our engineers put it back together and connected the power so the systems could be run for training purposes.”

Also based at Accra AFB is the School of Trade Training (SoTT). “Students from the aerospace engineering department of the Kwame Nkrumah University come here for six weeks every year for practical training. After that, we are inundated with applications to join [the GAF]. Some airlines also send their technicians to do a course at the SoTT, showing the good collaboration we have within civil aviation.”

The smallest of the country’s three airbases regarding flying operations is Tamale, which was built in 1966 with help of the former Soviet Union.

One of the Casa 295s is based there, flying with 2 Squadron, although at the time of writing it was undergoing its initial heavy maintenance check with Airbus in Spain after being in service for six years.

Nagai said: “Most transport aircraft tasks originate from Accra. But this aircraft is based at Tamale because of the airborne forces, which are also based there. Its main task is supporting them during their parachute jumping training and deployments.”

Also assisting in this training is F-27 G521. This aircraft made the last operational flight of the type in 2013, after which it was delivered to Tamale.

“The Fokker 27 and 28 have done something like 35 years. They’ve really served us very well,” said Nagai. “Ask the engineers on the F-27 and they will tell you they would love to go back to Fokker. But, of course, Fokker has folded up; we’re not getting spare parts anymore, and they have done their duty. So they were decommissioned.”

One last aircraft – the Fokker 28 that used to fly the president of Ghana – is for sale and is kept in flyable condition. Its engines are being run regularly.

The Communication Squadron nowadays flies the president in a Falcon 900EX. “This aircraft is on the civil register, so the maintenance regime is strictly by the civil aviation regulations.”

Nagai also discussed plans to establish an air force base in the centre of the country, around Atebubu.

“The idea is to establish a helicopter squadron

there, so we could reach both north and south. Furthermore, there are plans to have a joint forward operating base (FOB) with the navy somewhere in the west, because of the oil find.

“All these are still on the drawing board, but the final approval, of course, needs to come from the government.”

There are also plans to expand. “The air force is already much bigger than when I joined in 1980. But, as the economy grows and the population grows, there will be new requirements,” said Nagai.

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The Super Tucano is high on his wish list. “In 2013 this came up. The chief of air staff at the time assessed the threat level and we looked at the capabilities of the Super Tucano and we recommended it to the government. It would be used both as a strike aircraft and a trainer.

“So far it didn’t get put though, but negotiations with the manufacturers in Brazil are not closed totally. We still need it and, while we are also looking for alternatives, the Super Tucano remains the key in our new acquisitions.”

The intention was to get four aircraft and one simulator, Nagai said: “We plan to base them at Tamale AFB to re-establish the flying training school there, attached to the brand new Air Force Leadership Training School that we have in Tamale now. A smart hangar has already been built there to receive the Super Tucano.”

Currently, there are no plans to get additional helicopters for the coming three to five years. An option for a fourth C295 will not be taken up for now. ■



Desert colours: The first MiG-29M2 for Egypt wore a desert camouflage colour scheme, and was first seen in April 2017. Deliveries began five months later.



Two's company: The two-seat version is designated MiG-29M2. Unlike the original two-seat MiG-29UB variant the aircraft is equipped with radar and has full operational capabilities.

The Russian Aircraft Corporation (RAC) MiG company is hoping that new variants will repeat the success of the original MiG-29 in Africa. Jon Lake reports.

MiG GAME IN AFRICA

The original MiG-29 was exported in relatively large numbers to Africa and it is one of the most numerous fourth generation fighters in service on the continent.

Algeria took most of these, and the aircraft was exported in much smaller quantities to Chad, Eritrea and Sudan, with a total of about 80 overall.

Now MiG hopes that a new generation of aircraft will also find favour on the continent.

That hope has been boosted by a 46-aircraft launch order from Egypt for the new MiG-29M2, which offers a significant improvement in range and air-to-ground capabilities, in particular.

The Egypt order has provided a lifeline for the struggling MiG company, and for the second-generation MiG-29 programme. Since the end of the Cold War, domestic Russian fighter orders were overwhelmingly given to MiG's rival, Sukhoi (also part of the United Aircraft Corporation or UAC), while many of MiG's traditional customers turned to western fighter aircraft.

RAC MiG consists of the old Mikoyan OKB (design bureau) and two of its traditional factories – the MiG Manufacturing Complex No 1 at Lkhovitsy and the MiG Manufacturing

Complex No 2, the old Znamya Truda plant in Moscow.

An Indian Navy order for 45 MiG-29K/KUBs allowed the launch of a 'second generation' of MiG-29 variants. These were based on the improved MiG-29M (which had the internal Mikoyan OKB model number 9-15), six prototypes of which were built between 1986 and 1991.



The 9-15 featured airframe enhancements and a new three-channel fly-by-wire (FBW) flight control system. It was powered by improved RD-33 series 3M engines. The aircraft was also known as the MiG-29ME and as the MiG-33.

The 9-15 formed the basis of the MiG-29 MRCA offered to meet the Indian multi-role combat aircraft requirement. One aircraft was subsequently converted to two-seat configuration and served as the carrier-borne MiG-29KUB prototype (9-47) with folding wings, bigger flaps and bigger horizontal tailplanes. Another, also configured as a two-seater, became the MiG-29M2 prototype (9-67 or 9-47SM).

The MiG-29M2 and MiG-29KUB formed

what was called a 'unified fighter family', with a near-common airframe and many common systems.

Both variants had nine external hard points, enhanced air-to-ground weapons aiming software, increased internal fuel capacity, a retractable in-flight refuelling probe, smokeless RD-33MK engines, and an infrared search-and-track (IRST) system with TV and laser channels, integrated with a new helmet-mounted target designation system.

Both types have single-seat variants, with extra fuel in place of the rear cockpit, but retaining the same two-seat cockpit canopy. The single-seat carrier aircraft is the MiG-29K (9-41), while the single-seat version of the MiG-29M2 uses the MiG-29M (9-61 or 9-41SM) designation.

Two prototypes (one single-seat, one two-seat) were built to meet a Syrian requirement before this was cancelled, and the Syrian variant (effectively a land-based MiG-29K/KUB) subsequently formed the basis of the aircraft sold to Egypt in April 2015.

The United States suspended arms supplies to Egypt after the overthrow of the Islamist President Mohammad Morsi by the Egyptian military in July 2013. This prompted Egypt to



MiG
hopes that a
new generation of
aircraft will also find
favour on the
continent.

diversify future arms purchases. Thus, when Egypt needed a replacement for its ageing fleet of MiG-21s, it turned to France and Russia, placing an order for 16 two-seat Dassault Rafale Bs and eight single-seat Rafale Cs in February 2015, and for 46 MiG-29Ms and MiG-29M2s in April 2015.

Egypt was originally hoping to acquire the MiG-35, a more advanced MiG-29 derivative, which added active electronically scanned array (AESA) radar, thrust vectoring and other improvements.

However, it opted for the Syrian configuration in order to get the aircraft into service more rapidly. In the event, this was a wise move, as the AESA radar and thrust vectoring engines were quietly dropped from the MiG-35 variant selected for Russian service.

The first Egyptian aircraft was spotted at the factory wearing a sand and stone camouflage, with turquoise undersides, in April 2017, though subsequent aircraft wore a more conventional two-tone grey camouflage. Deliveries began in September 2017.

The new variant had greater internal fuel capacity than its predecessor, and could carry a payload of up to 7,000kg on its six underwing hardpoints, but this was partly offset by the

engines, which produced 7% more power.

The MiG-29M2 carries a threat warning system in pods mounted under the engine nacelles, but the Egyptian Air Force aircraft do not have the OLS-K electro-optical air-to-ground targeting and surveillance system developed for the second generation MiG-29. Instead, the aircraft can carry a T220/e targeting pod produced by the Precision Instruments System Joint Stock Company. This incorporates a thermal imager and TV camera and a laser rangefinder and designator.



The Egyptian aircraft were fitted with an MSP electronic warfare system, and possibly an Elettronica ELT/568(V)2 self-protection jammer.

The aircraft were delivered with a range of weaponry, including short-range IR-homing R-73 (AA-11 'Archer') and medium-range active radar homing RVV-AE or R-77 (AA-12 Adder 'Amraamski') air-to-air missiles. For air-to-ground use, the MiG-29M and MiG-29M2 use Kh-29 'Kedge' missiles and KAB-500 500kg guided bombs, with various guidance mechanisms.

AS-14 Kedge is a supersonic Russian counterpart to the US AGM-65 Maverick and the French AS.30, albeit with a bigger 320kg (700lb) warhead.

It is primarily intended for interdiction and close air support missions, and for the maritime attack roles. It has the ability to be used against hardened concrete structures.

The Kh-29TE uses an electro-optical (daylight television) seeker, while the Kh-29L is laser guided, and the Kh-29TD has a thermal imaging seeker.

The KAB-500Kr is the TV-guided version of the 500kg smart bomb, while the KAB-500L employs laser guidance, giving a circular error probable (CEP) of 7-10 metres. The KAB-500-OD has TV/terrain-matching guidance. The weapon is optimised for use against small-sized stationary or slow-moving hardened targets on the ground or sea surface.

In October 2018, during a visit to the Egyptian MiG-29M/M2 base by President Abdel Fattah el-Sisi, the Egyptian Air Force revealed that Kh-31 (AS-17 Krypton) missiles had been delivered for use on the aircraft. It was not clear whether these were the Kh-31AD anti-ship variant or the Kh-31PD anti-radiation versions of the missile. ■

The Kamov Ka-52 'Nile Crocodile' helicopter has officially entered service with the Egyptian Air Force. Jon Lake reports.

Egypt gets extra bite with the 'Nile Crocodile'...

The Egyptian Ka-52 variant is an export derivative of the Kamov Ka-52 Alligator – known to NATO as the 'Hokum-B'.

The Nile Crocodile name was apparently proposed by Dmitry Rogozin, the then Russian deputy prime minister in charge of the defence industry. It is not certain that the name has been officially adopted.

The Kamov Ka-52 announcement was made on December 6 during Egypt's first International Defence Expo – EDEX 2018.

At least 12 Ka-52s were visible in satellite images of the airbase at Wadi al Jandali (Al Qatamiyah/Al Khatamia) published in late 2018, suggesting that the first Ka-52 squadron was by then in place. The airfield is the home of the 550th Attack Helicopter Brigade, whose 51st Squadron is equipped with the AH-64D Longbow Apache.

The Nile Crocodile may incorporate some features from the similar Ka-52K Katran (mud

shark), a navalised derivative that was originally designed to operate from the two French Mistral-class amphibious assault ships ordered by Russia in 2010.

These vessels were subsequently embargoed in 2014 in the wake of Russia's annexation of the Crimea. The ships were then sold to Egypt in 2015.

The Egyptian Ka-52 features updated avionics and a new cooling system and (like the Katran) does have a reinforced fuselage structure and some corrosion-resistant materials. However, it lacks the folding rotor-blades and folding wing seen on the Ka-52K prototypes.

In 2015, Egypt signed a deal for the purchase of 46 Ka-52 land-based helicopters for delivery between 2017 and 2020. In September 2016, Egypt and Russia signed an agreement under which an initial cadre of 30 Egyptian pilots and 70 groundcrew would be trained on the Ka-52 in Russia.

The first Ka-52 for Egypt initially flew in primer, but was first seen in desert camouflage at the Progress plant in Arsenyev in the Primorsk region of Russia in June 2017. The first three aircraft were delivered from the Progress in July 2017, and three more followed in August.

Russian Helicopters general manager, Andrei Boginsky, said that 15 Ka-52s would be delivered to Egypt by the end of 2017 and that the rest would follow over the next two years. Some reports suggest that 19 Ka-52s had been delivered by the end of December 2017.

But, while deliveries ran ahead of schedule, the Ka-52 experienced technical problems during its introduction to service. The engines reportedly lost power in different flight regimes, while there were also problems with the night vision and navigation systems and other avionics equipment.

It was reported that these problems lay behind the Egyptian decision to buy 10 AH-64E Apache Guardians.

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Boginsky said that the company was planning urgent hardware and software upgrades to rectify deficiencies that had been found during combat testing in Syria and what was referred to as 'real action' in Egypt. These upgrades will centre on improvements to the electro-optical vision system and to the generators, which were identified as particular weaknesses.

Russian sources suggest that there is an additional requirement for further Ka-52s to fly from the Mistral-class ships.

Russia's TASS news agency said that Cairo had declined the offer of European or American helicopters to equip the two helicopter carriers, and that Russia had offered modern armament, electronic warfare and communications systems for the Mistrals, as well as the Ka-52K helicopter.

It has been reported that pre-contract work is under way on an export version of the Ka-52K Katran for Egypt, including finalisation of the helicopter's "technical concept" and working on the financial aspects of the contract.

In late August 2018, Alexander Mikheyev, head of Russia's state arms seller Rosoboronexport, said that the company would "soon" start talks on supplying Ka-52K helicopters to Egypt after the completion of other equipment deliveries for the Mistral-class helicopter carriers. ■

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High flyer: The Kamov Ka-52's coaxial contra-rotating main rotors give the aircraft a notably compact 'footprint' and obviate the need for a conventional anti-torque tail rotor.

...AND BOOSTED BY 10 NEW APACHES

The US State Department has approved the sale of 10 Boeing AH-64E Apache Guardian attack helicopters to Egypt, writes *Jon Lake*.

The announcement was made by the US Defense Security Cooperation Agency (DSCA) in November.

The Apache Guardian, previously known as the AH-64D Block III, is powered by T700-GE-701D engines with an upgraded face gear transmission to allow them to produce more power, as well as new composite main rotor blades. These give the aircraft an increased cruise speed, climb rate, and payload capacity. The type has an upgraded landing gear.

The AH-64E offers improved digital connectivity, with the joint tactical information distribution system, and the new variant is also able to control unmanned aerial vehicles (UAVs).

The aircraft is both a new-build configuration and an upgrade option for existing AH-64Ds.

The 10 aircraft for Egypt will be new-build, but it is probable that the country's existing fleet of about 45 AH-64Ds will eventually be upgraded to the same standards. The Egyptian Air Force placed an order for 36 AH-64A helicopters in 1995, and these were remanufactured to the AH-64D configuration under a contract signed in 2000, although they were supplied without Longbow radar. Egypt requested a further 12 AH-64D Block II Apaches with Longbow radars through a foreign military sale (FMS) in 2009.



Possible upgrade: Egypt's existing Apaches may be boosted to AH-64E standards.

The proposed sale to Egypt was valued at an estimated \$1 billion by the DSCA when it notified Congress. It revealed that the aircraft would be supplied with 24 engines (including four spares), 12 modernised target acquisition and designation sights/pilot night vision systems (M-TADS/PNVS), as well as 135 AGM-114 Hellfire missiles, communications and electronic equipment, spares, training, and US Government and contractor services.

Congress was told that the proposed sale would

contribute to US foreign policy and national security by helping to improve the security of a strategic partner, and that it would not alter the basic military balance in the region.

By expanding its fleet of multi-mission heavy attack helicopters, Egypt will be better able to counter terrorist activities emanating from the Sinai Peninsula that undermine regional stability, while also facilitating greater interoperability between Egypt, the US, and other allies. ■

*African air force commanders met with US Air Force and State Department leaders at the eighth annual Air Forces Africa (AFAFRICA) symposium in Morocco. **Jon Lake** reports.*

Safe and sound: AFAFRICA's mission includes providing security assistance. Here a USAF handler and his dog patrol the perimeter of Air Base 201, in Niger.



Dogged determination to counter terrorism

When the hut of your neighbour is burning, you need to help them put out the fire, otherwise, everything will burn down.

Those were the wise words of a lieutenant colonel from the Armée de l'Air Togolaise (Togo air force) as African air chiefs at the AFAFRICA symposium recognised the need for the group to become a more African-involved organisation that would improve and support air operations across the continent – with or without the help of allies from outside.

AFAFRICA is a US Air Force element, forming part of United States Air Forces in Europe – Air Forces Africa (USAFE-AFAFRICA) and forming a component command of both United States European Command (USEUCOM) and United States Africa Command (USAFRICOM).

USAFE-AFAFRICA is responsible for planning, conducting, controlling, coordinating and supporting air and space operations in Europe, parts of Asia and all of Africa (with the exception of Egypt) to achieve US national and NATO objectives.

There is a growing and real recognition of the value of mutual security throughout the continent and the latest AFAFRICA symposium, in October, was attended by 28 African air chiefs – 15 who were newcomers to the event, some of whom would otherwise not have had the chance to interact.

Major General Francis Ogolla, commander of the Kenya Air Force, said that without the symposium: “There is no organised forum where I could meet all the other air force commanders in Africa.”

As well as controlling and directing US special forces and other military operations across the continent,

AFAFRICA provides aid, assistance, training and guidance to local air forces battling terrorism and violent extremism, which continue to threaten security and stability in many African countries.

Many local air forces have vast areas of territory to protect with limited resources. Many air arms struggle to maintain small fleets of often ageing fixed-wing transport aircraft and helicopters. These have been acquired from a variety of sources, with consequent effects on serviceability, availability, and reliability.

Relatively few African air forces operate combat aircraft that are well-suited to the counter-insurgency mission.

As if this were not difficult enough, many African nations face threats that spill across borders, such as Boko Haram, which is active in Chad, Niger and northern Cameroon as well as in Nigeria. Boko Haram, Al Shabaab, and Al-Qaeda in Islamic Maghreb (AQIM), are increasingly collaborating and have attempted to synchronise and coordinate their activities, even sharing funds, training, weapons and explosives.

The best way of countering these supra-national threats is through close cooperation and coordination of counter-insurgency (COIN) operations, together with intelligence sharing.



USAFE-AFAFRICA has worked hard to bridge political, cultural and geographic gaps between African air forces, encouraging them to work together to overcome fiscal challenges and capability limitations.

The USA has also been able to share the lessons it has learned in its own asymmetric warfare and counter-insurgency operations, sharing those tactics, techniques and procedures (TTPs) that work best.

As a result, operations against insurgents and terrorist groups in Africa have made a real difference in recent years, eliminating the Islamic State group from most of Libya, and successfully eroding Al-Qaeda in Mali, in concert with French and other allied forces.

As part of a broader change in US defence strategy, the Trump administration has increasingly focused its attention on great power competition, and especially on countering the rapidly expanding financial and political influence of China and Russia across the continent. Efforts to counter Islamist terrorism has become a secondary priority, and one that the US hopes will increasingly be taken over by regional allies. The Pentagon had announced that it will scale back special operations missions in Africa and will reduce personnel numbers by about 10%.

But some disengagement by America is not necessarily a problem.

There has been progressively greater participation in the symposium over the years, while the fledgling Association of African Air Forces (formed in 2015 by the USA, Mauritania, Senegal and Ivory Coast) has also gone from strength-to-strength.

Heidi Grant, US deputy undersecretary of the Air Force for International Affairs observed that there was “a real thirst for greater cooperation – they don’t want to meet just once a year.”

Kenya has agreed to host the symposium next year. ■

Jon Lake summarises the latest defence news around the region.

TUNISIA COMPLETES BLACK HAWK PURCHASE FROM US

The US Army's Security Assistance Command (USASAC) has completed the delivery of a \$338 million foreign military sales (FMS) package of eight Sikorsky UH-60M Black Hawk helicopters and associated training and support to Tunisia.

The USASAC's core mission is to increase the military capabilities of countries that share similar security goals with the US.

The UH-60Ms were ordered by Tunisia in 2015. Four of the helicopters were delivered in June 2017, and four more followed in June 2018.

The USASAC and the contracting authority – Army Contracting Command at Redstone Arsenal, Alabama – followed a total package approach in accordance with the USA's new security assistance enterprise mission. This is designed to ensure that partner countries are fully trained on how to use and maintain equipment purchased from the US, and to build trust and create long-term partnerships that will underpin future interoperability and cooperation.



The package for Tunisia included training an initial aircrew cadre at Fort Rucker, Alabama, for pilots, instructor pilots and standardisation pilots; while helicopter crew chiefs and maintainers underwent training at a number of US Army schools. This helped to build Tunisian capabilities, and promises to ensure that Tunisia and the US will use the same operating and maintenance procedures, further increasing interoperability during any future combined missions.

Joint US and Tunisian teams were responsible for



The big push: US and Tunisian personnel unload one of the eight new UH-60Ms from a USAF C-17 Globemaster III transport aircraft.

introducing the UH-60M into Tunisian service, even down to unloading the new helicopters from the transport aircraft which delivered them, and assembling and flight-testing the UH-60Ms.

Melissa Black, senior FMS case manager for the US Army Aviation and Missile Command Security Assistance Management Directorate's (AMCOM SAMD) Tunisia UH-60M programme, highlighted the excellent partnership and cooperation between the various programme partners. "The Tunisian Air Force

has extremely hard working and knowledgeable personnel who were able to articulate the requirements related to the varied mission profiles," she said.

The Black Hawks will improve the north African nation's ability to deter regional threats – including violent extremist organisations, piracy and smuggling, while strengthening homeland defence capabilities, as well as supporting counterterrorism and border security operations. ■

CAMEROON GEARS UP FOR COUNTER-INSURGENCY CAMPAIGN



Air Power: One of four AgustaWestland AW109E Power helicopters for the Cameroon Air Force, seen without EO/IR turret or searchlight.

The Armée de l'Air du Cameroun (Cameroon Air Force) is undergoing a major re-equipment programme, although the US halted assistance in February 2019 amid reports of gross violations of human rights by Cameroon's security forces.

Cameroon is fighting against insurgents from the Islamist Boko Haram group, based in neighbouring Nigeria, and the Islamic State in West Africa group. It is also facing a campaign by English-speaking separatists, who are seeking independence from the largely French-speaking country.

The air force is undertaking two major counter-insurgency campaigns – Operation Emergence 4 and

Operation Alpha. It has started to acquire new aircraft to augment and replace what is an ageing fleet and has commissioned two new airfields. But the operational status of these new air bases – Base Aérienne 202 at Bamenda in the north-west and Base Aérienne 102 at Bertoua in the east – remains uncertain.

Most operations are still flown from Base Aérienne 301 at Garoua, the most modern and the best equipped airfield in the country. It is adjacent to the United States Army contingency location Garoua and is said to conform to NATO standards.

Transports operate from Base Aérienne 201 at

Douala, while most helicopters are stationed at Base Aérienne 101 near the capital, Yaoundé, where the 121ème Escadrille des Hélicoptères Anti-Chars (121st anti-tank helicopter squadron) operates two SA330 Pumas, four Harbin Z-9s and five Mil Mi-17s. Three Aérospatiale SA342 Gazelles are believed to have been removed from service.



The co-located 122ème Escadrille de Reconnaissance (122nd reconnaissance squadron) operates two Bell 206B-3 JetRangers, one Bell 412 and a single Sud SA318C Alouette II.

Two Cessna 208 Caravan intelligence, surveillance and reconnaissance (ISR) aircraft were delivered to Yaounde in May 2018, while two more were spotted en route to Cameroon at Santa Maria, in the Azores, in January 2019. These promise to provide real-time imagery and video to ground forces and commanders.

Since September 2018, four AgustaWestland AW109E Power helicopters have been undergoing flight tests at Varese-Venegono in Italy, wearing Cameroon Air Force markings, though no contract has been announced. At least two of these aircraft can be fitted with an under-nose searchlight, an underbelly electro optical/infrared (EO/IR) sensor turret, and with a winch on the starboard side. ■

New arrival: The Mi-172 is a civil certificated version of the M-8MT-3, built by Kazan Helicopters.



The air force branch of the Equatorial Guinea Guardia Nacional (National Guard) has continued its expansion.

A government-owned but CEIBA Cargo-operated Ilyushin Il-76TD freighter has been transferred to the air force to replace a similar aircraft that was withdrawn in 2013. Equatorial Guinea also received two new Mil Mi-172 helicopters from Kazan Helicopters in November 2018.

The Mi-172 is a civil-certificated passenger version of the Klimov TV3-117MT-powered Mi-8MT/Mi-17 'Hip-H' manufactured in the Kazan plant.

One of the two aircraft delivered to Equatorial Guinea was in 'salon' or VIP configuration, laid out for the carriage of up to 12 passengers. The other was in standard passenger fit, configured to carry up to 26 passengers.

The two Mi-172s were delivered directly from

EQUATORIAL GUINEA CONTINUES AIR FORCE EXPANSION

Kazan, augmenting a single Sikorsky S-92 and an AgustaWestland AW139 that are used by the government. One of the aircraft may be for use by the Guardia Nacional, and there are reports that the S-92 is a dual-use air force/government asset.

The air force has expanded rapidly over the last few years, gaining a combat element equipped with four Sukhoi Su-25 'Frogfoot' attack aircraft and two Czech-built Aero L-39 Albatros jet trainers, which also have a light attack capability.

These augment between two and seven Mi-24/35 'Hind' attack helicopters, which wear the same Leopard's head unit badge as the fast jets, and which were also delivered from surplus Ukrainian stocks.

A heavy-lift Mil Mi-26 helicopter was delivered in 2011.

The air force is principally based at an airfield near the capital city of Malabo on the island of Bioko, though there is also an attack helicopter detachment at Bata.

Equatorial Guinea ordered a pair of Airbus Defence & Space C295s in January 2016, and expected to take delivery of the first, configured for troop transport, in September 2016. The second aircraft – a maritime patrol variant intended for maritime surveillance missions over the nation's economic exclusive zone (EEZ) – was expected to follow in 2017. Neither has been delivered. ■

WHY ARE THE COBRAS NOT STRIKING?

Issues are arising surrounding the Kenya Air Force (KAF) Bell AH-1F Cobra attack helicopters.

In October 2018, Kenya's *Daily Nation* asked why the KAF's recently acquired Cobras were not "out biting Al Shabaab", or being used to support the country's contribution to the African Union Mission in Somalia (AMISOM).

The KAF received a number of former Royal Jordanian Air Force (RJAF) AH-1Fs (probably six) in 2017. Images and videos of an AH-1 in full KAF camouflage and markings being unloaded at Laikipia Air Base appeared online at the end of May 2017. And, in June 2017, a further video emerged showing the helicopter undertaking its first test flight after reassembly.

But, since then, the new Cobras have not flown any operational missions, despite increased tension on the border with Somalia, and despite continuing activity by Al Shabab insurgents.

The *Daily Nation* quoted a Kenyan Defence Forces spokesman, Lieutenant Colonel Paul Njuguna, as describing the lack of operational flying as "normal", and as disputing claims that the helicopters had been grounded. He explained the lack of operational activity by saying that pilot training and conversion was still ongoing.



This Kenyan AH-1F was photographed flying near Laikipia Air Base, Nanyuki in December 2018. Laikipia is the Kenya Air Force's main combat base, whereas the Army's 50th Air Cavalry Battalion operates from Moi Air Base, Mombasa.

PICTURE: ZAC HINCHOLIFFE.

But the *Daily Nation* said that KAF officers had claimed that there was now a pool of qualified pilots who had successfully trained to fly the Cobras.

A range of other reasons have been postulated for the lack of operational flying, including a lack of spare parts and 'appropriate ammunition', while others have claimed that the aircraft are not airworthy, and that their allegedly poor condition is being hushed up by the military.

There were some reports that the Cobras delivered to Kenya were among 16 aircraft withdrawn from use in Israel in August 2013 because they were

supposedly "unsafe to fly", and transferred to Jordan in mid-2015. These aircraft were supposedly given to Jordan to be stripped to provide spare parts for the RJAF's own AH-1s. But, in fact, the Israeli AH-1s were transferred for active use against Daesh, and the aircraft supplied to Kenya were, in any case, not ex-Israeli helicopters (which all seem to be accounted for), but were from the RJAF's own long-term fleet.

One theory for the lack of activity is a turf war between the Kenya Air Force and the Army's 50th Air Cavalry Division over which service will operate the new helicopters. ■

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Vote of confidence: The business charter market experienced a boom during Nigeria's recent political campaign.



On the right road...

The business aviation market in Nigeria is diverse and growing all the time – but it still faces a few problems.

Chukwu Emeke takes a look at the big picture.

Nigeria's flight charter service sub-sector and other business aviation segments are currently worth more than \$3 billion.

Constraints aside, growth prospects for the sector remain numerous with a poor road network barely serving the needs of around 200 million people.

The sector features not only private corporate jet users but also companies working in medevac, surveillance, logistics, agriculture, cargo, security and rescue services.

The Nigerian Government generates millions of dollars in tax revenue from private jets – even though the current administration's 2016 anti-corruption programme culled the number of owners, many of whom had acquired their aircraft through dubious means.

Now, although the country's business aviation market still faces challenges with issues like maintenance infrastructure, high government charges, muddy aircraft clearance procedures, and chartering constraints, the sector has also witnessed the entry of some new, genuine entrepreneurs, with high-net-worth individuals chartering, owning or intending to purchase or lease private jets.

The Nigerian business aviation market has grown consistently from the 1970s. With the emergence of the oil boom, the use of small aircraft and helicopters has increased.



The market is broad, encompassing FBOs, charter and cargo operators, with genuine entrepreneurial spirit. A company like TAT Nigeria, for example, is a charter airline but owns no aircraft. It specialises in taking Christians to Israel for pilgrimages using chartered aircraft.

Then there's Flying Doctors Nigeria (FDN), a medical emergency service that homes in on air ambulances, medevac, medico-logistics services and remote site medical solutions.

An older company is Aero Contractors. Established in 1959, it was one of the first providing helicopter offshore oil and gas sector operation services. In 2000, it extended its services to scheduled commercial operations.

Bristol Helicopters, Caverton Helicopters and OAS Helicopters are all privately owned and provide services for

individuals, companies and the government. There are licensed fixed-based operations (FBOs) like Quits Aviation and Evergreen Aviation Services, which have dedicated terminals where they provide integrated FBO and maintenance services.

Some major charter firms include Skyjet Aviation, Skypower Express, Izy Air, Jed Air, Anap Jets, ExecuJet, West Link Aviation, Airstream Aviation, Air First Aviation, and Skybird Aviation.

Dornier Aviation Nigeria, a passenger charter airline, also carries out aerial photography and agricultural flying operations, as well as emergency evacuation services, using Dornier 228s and 338s.



Some 15 business aviation operators boast a total of at least 40 aircraft in their fleets. Types include Bombardier Challenger, Global 6000, Hawker Siddeley, Gulfstream and Embraer Legacy and Citation.

Izy Air and West Link, for instance, operate Challenger 604s. ExecuJet has about eight private jets in partnership with some other operators of its Embraer Legacy 650, Hawker Siddeley 125 and Bombardier Challenger.

Skyjet operates Hawker, Embraer Legacy and Learjets.

There are scheduled local airlines also operating special charter flights. Max Air, for instance, operates Learjet and Embraer, while Dana Air uses two Learjet 45s for charter services.

Overland Airways operates both scheduled and charter services with its fleet of ATRs and Beechcraft, while Arik Air uses small aircraft for special operations.

The business aviation market experienced a boom recently during Nigeria's political campaigns as many politicians used charter operators.

During the campaigns, operators had to contend with the challenge of having enough aircraft in their fleets to match demand. Operators charged more than \$4,500 per hour.

Benefits of the campaign season boom also rubbed off on aviation fuel vendors, auxiliary service providers and other business aviation stakeholders.



Cool air: The flight from Cape Town takes a little more than five hours.

An African company has targeted Antarctica as a tourist destination. Dave Calderwood reports.

Have an ice day...

Have you heard the one about a business jet operator in Africa flying tourists to Antarctica in a Gulfstream G550?

Don't blow hot and cold, it's true.

Angola's BestFly is working with the South African arm of ExecuJet to fly the exclusive trips for adventure travel company White Desert.

"We are scheduled to fly 22 flights to Antarctica for ExecuJet this year; we have already flown four," said Nuno Pereira, chief executive and founder of BestFly.

"We go from Cape Town, flying south to Wolf's Fang runway in Antarctica, slightly south of the Russian runway station. It's a 5 hour 10 minute flight.

"We went through a very thorough certification process before operating the first flight into Antarctica last year."

ExecuJet chose BestFly for the task because it knew the Angolan operator was experienced in running special operations safely and had passed several leading audits, including the international standard for business aircraft handlers (IS-BAH) stage 1. Pereira led the certification process making the first flight.

"We land on an ice runway. It's 3,000 metres and made of blue ice – that's aged ice – compacted and grooved so it has almost the same grip as a wet runway," he explained.

"I've landed there myself three or four times. I did the first flight of last season and this season, and I couldn't tell the difference [from a wet runway]. The only challenge is taxiing – you need to taxi slowly or it'll skid; otherwise take-off and landing is exactly the same."



Despite the pressures of running the business, Pereira is still very much the active pilot. "Oh yes, yes, I wouldn't do it any other way," he said. "My wife would throw me out of the house if I stopped flying! I think that's one of the keys of the success of the business because I have a managerial point of view as well as a pilot's point of view."

And success it has been for BestFly, now entering its 10th year of operations.

Right now, the hard work is all coming good, with a booming oil industry in Angola bringing

new revenue streams and helping the country bounce back from the ravages of 27 years of civil war, which only came to an end in 2002. But the oil industry has only just begun to pay dividends. BestFly had to grow the hard way.

"We [Nuno and Alcinda, his wife] built BestFly without any support of the oil industry. We built BestFly based on everything else. Of course, oil is going to be a big boost for us now, with helicopters and other stuff we are planning, but there's more life in Angola than oil alone – there's agriculture, mining, construction; they are the major sources of revenue for BestFly.

"We also have a couple of dedicated medevac aircraft, fixed-wing, that we fly for the insurance companies and medical clinics in the country. We support a lot of the finance industry, and we manage aircraft owned by banks.

"The key to success for BestFly is that we have not become aligned with one source of revenue. We have had to be imaginative to continue to grow."

Helicopter operations are the next big thing for BestFly, expanding a fleet which has been

Continued
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Building up BestFly together: Nuno Pereira and his wife Alcinda.



CONTINUED FROM PAGE 48

purely fixed-wing until now – a mix of jet and propeller aircraft.

“We’re the first privately owned rotary-wing operation in Angola flying offshore,” said Pereira. “We are completely independent and now have a contract with a major energy company. We are providing services in partnership with Héli-Union of France but under our umbrella. Héli-Union has extensive experience in the rotary-wing market and they were also in Angola for quite a while.

“For both of us it was a win-win deal. They understand very well our market and we understand very well the Angolan needs. With that, we were able to start immediately. However, we are in a transition process where the helicopters will be operated under the Angolan air operator’s certificate (AOC) of BestFly with the support of Héli-Union in the background.”

So far, the venture has acquired two AgustaWestland AW139s, well-proven helicopters in the oil and gas arena.

“I’m not a rotary-wing man myself. I’m more fixed-wing,” admitted Pereira. “But I was amazed with the equipment and the ability of the helicopters. The contract is mainly for medevac but we can, in as little as 45 minutes, go from medevac configuration to a 12-passenger shuttle.

“The pilots will initially come from Héli-Union but our strategy is believing in Angola, employing staff who are Angolan. It is our plan that, in a short period of time, we will, with the support of Héli-Union, hire and train Angolan pilots on the machines and get Angolan pilots on the operations. The foreign pilots will support the growth and the experience of the Angolan pilots on the equipment.

“This is the safe way to do it. We want to keep the reputation of BestFly, as always, to the highest standards.”

Standards matter to the Pereiras, who haven’t shied away from international scrutiny.

The Luanda-based company achieved stage 1

ISBAH back in 2016, successfully renewed it in 2017, and last year went through the challenge of the stage 2 audit.

“We had some improvements to make raised by the auditor. We did them, complied, and had them accepted by the auditor. Everything was reviewed by the International Business Aviation Council (IBAC) and I am delighted that we have now achieved stage 2,” said Pereira.



“BestFly is probably the most audited company in Angola! We’ve been audited by all the major oil companies because, to fly for them, we had to go through their due process. We are audited by the European Aviation Safety Agency (EASA), by the Aruba Civil Aviation Authority, because we have an Aruba AOC and by the Angola Civil Aviation Authority because we have an Angolan AOC.

“But ISBAH stage 2 was the most thorough audit and I say it in a positive way – we need help to find out where we can improve because there’s always room for improvement. That took us a little time to make the changes.

“My team was awesome! It was the team at mid-management level that did all the work. They really upped the game so I have to be really pleased

with my director of operations and my director of quality – they were the guys who made us proud.”

Among the things BestFly has put in place to set its high standards is a relationship with FlightSafety International for all the company’s pilot training needs. With 15 aircraft on the fleet and another Gulfstream 550 on the way, the company needs a lot of well-trained pilots. The fleet includes two other Gulfstreams – a G450 and G3 – two Dassault Falcon 900s, a Bombardier Challenger 605, three Lear 45s, a Dornier 328 Jet, four King Air turboprops and a Twin Otter... plus the new helicopters.

“BestFly is already a recognised brand in the industry but we want to create more awareness in the region to demonstrate that Africans can do it as well as everyone else,” said Pereira.

“We believe in Africa. I’m very passionate about my country. One of the greatest things we achieved with BestFly was not just the business success but the help we gave to improve the perception of Angola. That’s more important than any money we make.

“We have the Aruban AOC; we have aircraft based elsewhere other than Angola so we are catching other markets as well.

“But we want always to remember where we are coming from. We are an Angolan company open to the world.”



On thick ice: The BestFly Gulfstream G550 at Wolf’s Fang runway, Antarctica.

The African Business Aviation Association (AfBAA) took the African Business & General Aviation Conference & Exhibition to Nairobi, Kenya, for the first time in January. Githae Mwaniki was there.



Key speakers: From left, Barry Kashambo, Nick Fadugba, Gibert Kibe, and Margaret Kyarwenda.

Catalysts, challenges, and collaboration

The Kenya conference attracted more than 100 participants from 13 countries representing 73 organisations from across Africa and Europe.

Among the organisations represented were airlines like Kenya Airways, Silverstone Air, Air Kenya, and Mahogany Air; OEMs like Pratt & Whitney, Collins Aerospace, GE Aviation, and Honeywell Aviation; trip support firms NEXUS and Jet Support; ground handler Swissport; air operator ALS, and industry bodies including the African Airlines Association (AFRAA), the Association of African Aviation Training Organizations (AATO) and the International Civil Aviation Organization (ICAO).

Opening the conference, AfBAA chairman, Nick Fadugba, said Kenya had a rich heritage of hosting a significant number of general and business aviation organisations.

He reiterated that aviation is a catalyst for economic and social development on the continent and added that his role as chairman has been to promote the understanding of business aviation in African economic development, make AfBAA membership more relevant, and ensure the financial sustainability of the association.

Gilbert Kibe, director general of the Kenya Civil Aviation Authority (KCAA), noted that civil aviation in Kenya contributed 1.1% of the country's gross domestic product (GDP), creating about 50,000 jobs directly and supporting 142,000 jobs indirectly through tourism.

He pointed out that general aviation was a significant factor in the production of skilled pilots.

He said general and business aviation contributed to 21% of all aircraft movement into and out of Kenya and 51% of

Kenyan domestic aircraft movements. He defined general aviation as aircraft movement that were not used for scheduled air services, and business aviation as use of general aviation for business purposes using fixed-wing aircraft and helicopters.

Kibe admitted that, because there was currently no clear distinction between mainline commercial operation and general and business aviation, it had led to an imbalance in regulation. He said the authority had seen the need to distinguish between the sectors with the newly enacted specific regulations that cover commercial aviation, general aviation and helicopter operations respectively.

Barry Kashambo, the ICAO regional director for eastern and southern Africa, looked at the impact of his organisation's standards on business and general aviation in Africa.

He said the standards and recommended practices (SARPs) were necessary due to the interactive nature of aircraft movement, adding that their development centred on cooperation, consensus, compliance and commitment.

He emphasised that SARPs would help ensure safety by harmonising licensing, standardisation and building customer confidence. He also called for the implementation of measures to address the fact that there are no records on the safety of business aviation.



Eutyclus Waitthaka, secretary of the Kenya Association of Air Operators, discussed the challenges facing aircraft operators in his country, including flight safety hazards, the economic environment and the lack of collaboration between key players.

Aslam Khan, chairman of Aircraft Leasing Services (ALS) also talked about the challenges of business and general aviation in the country.

He said the breakthrough for his company came in the early 1990s when war broke out in Somalia that led to non-governmental organisations (NGOs) requiring leased turboprop aircraft. Since many Kenyan operators were not prepared at that time, most of the leases were taken up by South African-registered aircraft. Subsequently, there were joint ventures with the South Africans and Kenyan operators later developed the capacity to lease directly.

He noted that, previously, Kenyan banks would only offer loans in Kenyan shillings at high interest rates like 18-20%, unlike the current situation where loans were offered at lower rates and in US dollars.

He said that since Kenya signed the Cape Town Convention, which empowers lessors to recover aircraft with ease in the event of a defaulting client, it had given confidence for people to lease larger aircraft to Kenyan operators.

He added that a key industry challenge was the railway development levy being charged on all imports into Kenya, including aircraft parts. Even though most operators were using an insurance bond to cover this tax, more lobbying was required to remove it from applying on aircraft parts, he concluded.

During the panel discussions on the importance of aviation training, Samson



CONTINUED FROM PAGE 51

Aketch, director Kenya Aeronautical College, outlined the key challenges of inadequate finances for training and lack of collaboration and support from CAAs.

Margaret Kyarwenda, secretary general of the AATO, discussed the inadequate number of professionals and the variation of training standards. She said AATO was addressing this by the collation of all training requirements and getting more members to roll out harmonised training programmes.

In the panel session on regulatory issues facing African governments and CAAs, Jim Balemua chairman & CEO of Zambia-based Mahogany Air, called for more implementation of open skies in Africa. He lamented that the process for private airlines to fly across borders had numerous restrictions in the bilateral air service agreements.

Bakari Abubakar, a consultant with Frontier Innovative Solutions, challenged CAAs to ensure they gave adequate time for operators to comply with new regulations.

Jose Benvavent, from EUs ECHO Flights, outlined how his organisation facilitated NGO access to restricted and remote areas with no roads or insecure sections in the DR Congo, using aircraft leased from Kenyan operators.



On tour: The AfBAA delegates taking a look at Wilson Airport.

The session on remotely operated aircraft systems (RPAS) addressed the importance of drones, with Kyarwenda calling for more states to enact regulations to ensure drones were configured to address all safety concerns.

Charity Muthoni, an air navigation service officer with the Kenyan CAA, said the authority was amending the proposed RPAS regulations and planning for another round of public participation to ensure the new regulations were approved by parliament, unlike the previous regulations that weren't.

At the final panel session on the way forward for business and general aviation, it was agreed that training was a key pillar for success, with more action needed on the collection of training

data needs and on financing solutions.

The need of more joint ventures to address the capital-intensive nature of business, the importance of effective succession plans for operators, and more support for mentorship programmes for youth aviation careers was emphasised.

The conference resolved to urge industry policymakers to ensure business aviation was effectively recognised and factored into aviation policy as there was currently an over-focus on the airline sector.

The ICAO was also urged to develop specific SARPs to cover business aviation operations, which should be adopted by contracting CAAs all over Africa. ■

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From military helicopters through 'aerial bats' to unmanned air vehicles, Africa's aerial anti-poaching operations are being stepped up. David Oliver reports.

HUNTING HUNTERS

«À la chasse aux chasseurs... » – Page 56

Aerial anti-poaching surveillance is provided by the South African National Parks (SANParks) fleet of fixed and rotary-wing aircraft supported by South African Air Force (SAAF) helicopters, normally an Agusta A109 light utility helicopter, and a pair of aircraft made available by the Ichikowitz Family Foundation.

In 2013, a former British Army Air Corps Gazelle AH.1 helicopter was donated to SANParks by the Ichikowitz Family Foundation in association with the Paramount Group, South Africa's largest private aerospace and defence group, to fight rhino poachers in the Kruger National Park, South Africa's largest game reserve.

A second former Royal Navy HT.2 Gazelle was donated in 2015.

The Paramount Group Anti-Poaching and K9 Academy houses one of the largest K9 breeding and training facilities in Africa. Specialising in anti-poaching activities, it provides combat training courses for park rangers, and rapid response unit training for K9 teams, including rappelling from helicopters for fast deployment.



In 2016, some R38 million (\$2.75m) of the massive R225 million (\$16.3m) made available for anti- and counter-poaching operations in SANParks went to the acquisition of a new Airbus helicopter, an AS 350B3E. Specially fitted equipment allows the helicopter to be used at night and provide real-time intelligence to ranger and military patrols on the ground.

This latest addition to the Kruger air wing means the SANParks now has three helicopters, one fixed-wing Seabird Seeker aircraft and a pair of B22 Bantam microlights to assist in its anti- and counter-poaching operations.

In September 2016, the Ichikowitz Family Foundation donated another Gazelle helicopter, pilot training, specialist ranger training and equipment for anti-poaching officers, as well as



A former British Army Air Corps Gazelle AH.1 helicopter was donated to SANParks to fight rhino poachers in the Kruger National Park, South Africa's largest game reserve.

PICTURE: BIRDSIMAGESTOCK.COM

the establishment of a canine training facility, to the Gabon National Parks Agency to set up an anti-poaching rapid response task force.

This helicopter was one of a number of ex-AAC Gazelle AH.1s acquired by the Paramount Group, which refurbished it and equipped it for its new role.

Flight training took place at Paramount's flight academy in South Africa, with around half-a-dozen pilots being trained to date. Maintenance and technical support is also being carried out by Paramount Aerospace and the Paramount K9 Training School has supplied two dogs and handlers to Gabon, with another six dogs scheduled to be sent to the west African nation.

Professor Lee White, the British born director of Parcs Gabon, said that poaching has become more violent and that ivory smuggling networks are run by organised criminals that also trade in drugs and human trafficking.

He said Gabon has made strides in addressing poaching with 750 personnel involved, including 100 from the military. Due to the increasingly violent nature of poaching, Parcs Gabon has had to give military training to its rangers as poachers will fire on sight, often with automatic weapons.

Parcs Gabon has 150 vehicles, 35 boats and five aircraft and now a helicopter, which will be critical in supporting the war against poaching. Ivor Ichikowitz, founder of the Ichikowitz Family Foundation and executive chairman of Paramount Group, said there is a link between crime and poaching, with terror activities around the world being funded by poaching. He said poaching is no longer a conservation issue but a threat to democracies. "This helicopter is only the beginning of our commitment to Professor Lee and his remarkable organisation."

One of the most effective aircraft used by many game reserves for anti-poaching operations is the



Fighting poaching and trafficking. Top: A Wildhood Bat Hawk light aircraft flown by pilots of Flying for Rhino & Conservation. PICTURE: F4R. Centre: SNParks K9 team on the skids of a Paramount-donated Gazelle helicopter operating anti-poaching patrols in the Kruger National Park. PICTURE: PARAMOUNT GROUP. Bottom: The Parks Gabon K9 team with its Ichikowitz Family Foundation-donated Gazelle helicopter. PICTURE: PARAMOUNT GROUP.

Bat Hawk light aircraft, which is extremely quiet, can fly very slowly and take off and land in just 30 metres.

Since 2014, when the Bat Hawk received South African Civil Aviation Authority approval, the South African-based Micro Aviation SA company has built more than 145 units, with the majority of the sales being to wildlife conservation bodies in southern Africa, including SANParks and a number of parks in Mozambique and Tanzania as well as wildlife trusts.

Powered by a 100hp four-cylinder Rotax engine and equipped with large bush tyres, hydraulic disk brakes and a large 80 litre fuel tank capacity, the Bat Hawk has excellent all round visibility from the cockpit, short take-off and landing distances, ease of operation, as well as a relatively low initial price and low operating costs. The high-mounted Bat Hawk propeller

reduces the risk of damage by grass, sticks, stones and sand when operating from unmade airstrips making it a true “bush plane”.

Micro Aviation has armed six Bat Hawk light aircraft sold to the Botswana Defence Force and four to the Botswana Police Service in 2017.



FN MINIMI 5.6mm Mk.3 light machine guns (LMGs) that the pilot can fire from a button in the cockpit are placed on either side of the pilot cabin on each of the aircraft. The Botswana Defence Force is responsible for patrolling the eastern and northern parts of the country that include Chobe and Ngami, while the police service is responsible for the Central Kalahari Game Reserve, and the wildlife and national parks department patrols the Kalahari

Transfrontier and the Mabuasehube Game Reserve.

The Wildhood Foundation is a Swedish based non-profit organisation devoted to fighting poaching and trafficking of wild threatened species in Africa and Indonesia. The foundation was founded in 2016 as a reaction to the escalating poaching crises, with the objective to save the most threatened species from extinction in their natural habitats.

It uses the Bat Hawk for surveillance to prevent poaching by locating threatened animals in the reserves, which is crucial in order to deploy ground rangers as protection for these animals.

Wildhood saw the role of aircraft as a conservation tool changing as, in the past, helicopters were used to do animal monitoring. As the need for air support increases with the



CONTINUED FROM PAGE 55

escalating poaching, so has the cost of flying and it was evident that new solutions had to be found. This is where the Bat Hawk light aircraft came to the fore.

Wildhood Foundation's local partner in the sky, Flying for Rhino & Conservation (F4R), has great experience in anti-poaching operations. F4R has, over time, flown and tested numerous different aircraft and settled on the Bat Hawk.

F4R considers the aircraft perfect for the task as it has low fuel consumption, slow speed, a good field of visibility and can handle the more severe weather conditions in emergencies.



F4R is a group of dedicated people who offer their expertise as pilots and conservationists to support the anti-poaching work and ground rangers in the Greater Kruger National Park, South Africa.

Over the past years they have faced challenges to keep the aircraft safely flying with good maintenance, as well as ongoing training for the pilots as the role of the aircraft and its pilots has developed.

The type of low-level flying required to perform the tasks of locating animals before the poachers do, as well as locating and following poachers from the air, is an extremely risky mission that requires a completely different mindset and



Air Shepherd's fixed-wing UAVs with a mobile ground control station that fly anti-poaching surveillance in Malawi, South Africa and Zimbabwe.

PICTURE: AIR SHEPHERD

approach.

In 2012, SANParks considered using unmanned aerial vehicles (UAVs) to target rhino poachers and the manufacturer, Denel, loaned one of its large fixed-wing Seeker II UAVs used by the South African National Defence Force, for a short series of trials.

The use of UAVs for anti-poaching surveillance has been subsequently trialled in a number of countries.

The Zambian Department of National Parks and Wildlife (DNPW) has taken delivery of several commercially available multi-rotor

vertical take-off and landing (VTOL) mini UAVs and a larger fixed-wing UAV that will be deployed to search for wildlife poachers.

They were delivered by Saving the World Using Aerospace Technologies (SWUAT) Limited, in partnership with Worldwide Fund for Nature Zambia, which officially launched its UAV conservation project in March 2018.

The UAVs will be deployed across five national parks during an initial trial period. Apart from the primary surveillance role, the UAVs can be used for wildlife population/distribution and vegetation mapping.

Air Shepherd, a new initiative of the American Lindbergh Foundation, is using sophisticated UAV technology. Its long-endurance fixed-wing UAVs are deployed with advanced infrared surveillance systems and supercomputer-based predictive analytic technology developed at the University of Maryland.

The combination of algorithms and aviation predicts where poaching is likely to happen – with a claimed accuracy level of 93% – and aims to apprehend poachers before they can kill. Tested on private reserves in southern Africa for two years, Air Shepherd UAV teams are deployed at wildlife reserves in Malawi and Zimbabwe, and at Ezemvelo KZN Wildlife, which is a governmental organisation responsible for maintaining wildlife conservation areas and biodiversity in South Africa's KwaZulu-Natal Province. ■

SOMMAIRE

À LA CHASSE AUX CHASSEURS...

Des hélicoptères militaires aux véhicules aériens sans pilote, en passant par les "chauves-souris aériennes", les opérations aériennes de lutte contre le braconnage en Afrique se multiplient. Des détails avec David Oliver.

La surveillance aérienne anti-braconnage est assurée par la flotte d'avions des parcs nationaux sud-africains (SANParks), soutenue par des hélicoptères de la South African Air Force (SAAF), un Agusta A109 et deux avions fournis par la Fondation Ichikowitz. Selon son fondateur et le PDG de Paramount, Ivor Ichikowitz, le braconnage menacerait les démocraties.

En 2013, la fondation a offert un hélicoptère Gazelle AH.1 à SANParks en association avec le groupe aéronautique et de défense Paramount, pour lutter contre le braconnage dans le parc national Kruger.

Un deuxième Gazelle HT.2 consolida la flotte en 2015.

Le Paramount Group Anti-Poaching and K9 Academy abrite l'un des plus grands centres d'élevage et de formation en Afrique. Spécialisé dans les activités anti-braconnage, il propose des formations aux rangers et aux équipes K9.

En 2016, une somme d'environ £12,05 millions fut investie dans l'acquisition d'un nouvel hélicoptère Airbus, un AS 350B3E.

SANParks dispose désormais de trois hélicoptères dont un Seabird Seeker et deux B22 Bantam.

En septembre 2016, la Fondation Ichikowitz a financé un autre hélicoptère Gazelle, la formation de pilotes et de rangers et du matériel pour les agents anti-braconnage.

Elle a aussi créé un centre de formation canine pour l'Agence des parcs nationaux du Gabon. Selon son directeur, le Professeur Lee White, les réseaux de trafic d'ivoire étaient gérés par des groupes de crime organisé également liés au trafic de drogue et des êtres humains. Parcs Gabon compte 150 véhicules, 35 bateaux et 5 avions, et désormais un hélicoptère.



L'un des avions les plus efficaces utilisés par de nombreuses réserves est le Bat Hawk, un véritable «avion de brousse».

Depuis 2014, la société Micro Aviation SA, basée en Afrique du Sud, a construit plus de 145 unités, la majorité des ventes étant destinées à des organismes de protection de la faune en Afrique australe, notamment SANParks et des parcs au Mozambique et en Tanzanie.

Micro Aviation a équipé six Bat Hawk vendus aux forces de défense du Botswana et quatre au

service de police du pays en 2017.

La Wildhood Foundation basée en Suède qui lutte contre le braconnage et le trafic d'espèces menacées en Afrique et en Indonésie, utilise le Bat Hawk.

Le partenaire local de la fondation, Flying for Rhino & Conservation (F4R), a une grande expérience dans ce domaine.

En 2012, SANParks envisagea d'utiliser des véhicules aériens sans pilote (UAV) pour cibler les braconniers de rhinocéros. Le fabricant Denel, a prêté aux parcs l'un de ses grands UAV Seeker II pour une période d'essai.

L'utilisation de drones pour la surveillance a ensuite été testée dans plusieurs pays dont la Zambie.

Les UAV seront déployés dans cinq parcs nationaux au cours d'une première période d'essai.

Air Shepherd, la nouvelle initiative de l'American Lindbergh Foundation, utilise cette technologie sophistiquée.

La combinaison des algorithmes et de l'aviation indique où le braconnage risque d'avoir lieu.

Les UAV Air Shepherd sont déployés dans des réserves fauniques du Malawi, du Zimbabwe et d'Afrique du Sud. ■

ZAMBIA ON COURSE FOR AIR AMBULANCE SERVICE

The Zambia Air Force (ZAF) and the Zambia Ministry of Health have agreed to partner in establishing a national air ambulance service using a dedicated emergency response aircraft, writes **Jon Lake**.

ZAF commander, Lieutenant General David Muma, announced that the air force planned to establish the air ambulance during the first quarter of 2019, starting operations as soon as possible. He said the ZAF had already made headway in putting what he called “appropriate infrastructure” in place.

No announcement has been made as to whether a fixed-wing aircraft or a helicopter will be assigned to, or procured for, the air ambulance role. It is possible that an existing air force aircraft – perhaps a Harbin Z-9 helicopter – could be used, at least initially.

These plans are strongly supported by Zambia Minister of Health, Chitalu Chilufya, who presented the air force with a road ambulance donated by his ministry after the announcement.

The minister and the ZAF commander believe that an air ambulance will be critical for achieving a quick response to medical



Healthy move: The ZAF operates about 25 helicopters, including seven Harbin Z-9s, which could be pressed into service to provide air ambulance services.

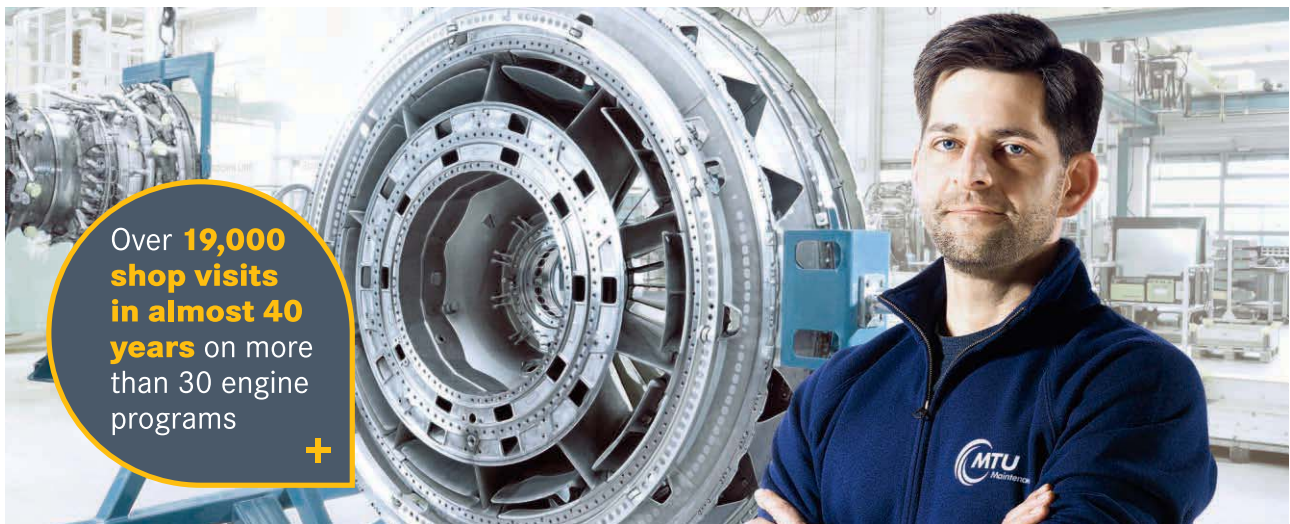
emergencies across all parts of the country, and acknowledge that reducing response times will save lives in the event of emergencies and accidents, and even when responding to home emergencies within towns and townships.

The Zambian Government is committed to strengthening healthcare systems across the continuum of care, including the development of human capital and traditional infrastructure. It is also driving forward a pioneering universal health coverage agenda, enhancing service delivery to all Zambians – leaving no-one behind.

The ZAF has partnered with the government

in this process, and the minister thanked the air force for its continued support in enhancing healthcare service delivery at all levels, promising to improve the supply of drugs and medical personal in ZAF-run hospitals, which also serve surrounding communities.

The ZAF commander stressed the need for the government and air force to improve and strengthen their collaboration, and suggested that this could include the provision of ‘flying doctor’ services and the creation of more specialised mobile clinics – especially in more far-flung parts of the country.



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KOTOKA TERMINAL LIGHTENS THE LOAD

The new Terminal 3 at Kotoka International Airport (KIA), opened in September 2018, has considerably lowered pressure on the two other terminals, writes Vincent Chappard.

This major project, which includes the rehabilitation and modernisation of regional airports managed by Ghana Airports Company Limited (GACL), is in line with the Ghana shared growth and development agenda.

It supports the country's ambition to transform the airport into a gateway for west Africa and position KIA as a regional hub to enhance connectivity, boost local economy, and attract more business and visitors.

The \$275 million project has been financed by the African Development Bank (for \$120 million), financial institutions and commercial banks.

Terminal 3 can handle up to five million passengers a year, with an expansion potential up to 6.5 million. It can process 1,250 passengers at peak times.



It has a fully automated baggage system, designed in accordance with the latest European Civil Aviation Conference hold baggage screening (ECAC HBS) requirements, to handle 3,500 bags per hour.

Mapa Construction, one of the two major contracting companies under MNG Holding, has designed and built the terminal for international traffic according to latest International Air Transport Association (IATA) requirements.

It spreads across an area of 45,000sqm and features a large retail and commercial area, three business lounges, six fixed links and seven air bridges, plus parking space for



more than 700 vehicles at walking distance.

GACL has worked in collaboration with Airports Company of South Africa (ACSA) to create efficient airport operations and commercial services at KIA, the only international airport of Ghana.

Modern: KIA is being transformed into a gateway for west Africa

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LE NOUVEAU TERMINAL ATTÉNUÉ LA PRESSION

Le nouveau terminal 3 (T3) de l'Aéroport International Kotoka (KIA) d'Accra inauguré en septembre 2018 tient ses promesses. Il a considérablement baissé la pression sur les deux autres terminaux. Un reportage de Vincent Chappard.

Ce projet d'envergure qui comprenait aussi la rénovation des aéroports régionaux gérés par la Ghana Airports Company Limited (GACL) fait partie du programme national de modernisation et de transformation des infrastructures vitales du pays, le Ghana Shared Growth and Development Agenda.

Au coût d'environ 275 millions de dollars, il a bénéficié du financement de la Banque africaine de développement (à hauteur de 120 millions de dollars), d'institutions financières et des banques commerciales.

Le Ghana mise énormément sur ces nouvelles infrastructures aéroportuaires pour se positionner comme plaque tournante de l'aviation en Afrique de l'Ouest et hub régional pour améliorer la

connectivité aérienne, relancer l'économie nationale, rendre le business plus attractif et attirer plus de visiteurs dans le pays.

Alliant design moderne, confort et innovation technologique, ce nouveau terminal peut accueillir jusqu'à cinq millions de passagers avec un potentiel de 6,5 millions annuellement. Il a la capacité de gérer 1 250 passagers aux heures de pointe.

Les travaux commandités par la GACL ont été réalisés par la compagnie Mapa Construction MNG Holding et répondent aux normes de l'IATA basées sur un niveau de service optimal. La GACL a bénéficié de l'expertise technique et de l'expérience internationale d'Airports Company of South Africa (ACSA). Cette coopération africaine

réussie concernait également les opérations aéroportuaires et les services commerciaux.

Le terminal 3 couvre une superficie de 45,000 m² et comprend trois salons VIP, une grande zone commerciale, six passerelles d'embarquement/débarquement, sept ponts aériens, et un parking pouvant accueillir 700 véhicules. Les innovations technologiques sont omniprésentes comme ce système entièrement automatisé respectant les normes ECAC HBS pouvant traiter 3 500 bagages par heure.

Le nouveau terminal de l'unique aéroport international du Ghana va certainement soutenir la croissance que connaît le secteur aéronautique depuis la dernière décennie.



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Lancée il y a 12 ans et basée à Dakar au Sénégal, l'Union des Gestionnaires Aéroportuaire d'Afrique Centrale et de l'Ouest (UGAACO) regroupe 17 aéroports dans 16 pays d'Afrique centrale et de l'Ouest. **Romuald Nguéyap** a interrogé **Simon Kabore**, le secrétaire exécutif.

LE TREMPLIN DU PROGRÈS

Les aéroports africains accordent aujourd'hui une priorité à la mutualisation et à la coordination des efforts pour relever les défis du développement du transport aérien. C'est dans cette dynamique que s'inscrit l'UGAACO qui compte jouer son rôle de catalyseur pour la promotion du développement de l'activité aéroportuaire au profit de l'ensemble de ses membres.

Ancien gestionnaire des aéroports du Burkina Faso et directeur de l'aviation civile de son pays, Simon Kabore a pris la tête du secrétariat exécutif de l'UGAACO en 2017. Avec son double regard d'exploitant et de régulateur, il estime que « l'UGAACO est un véritable catalyseur des relations professionnelles qui lient à la fois les aéroports membres et ceux du reste du monde ».

L'UGAACO représente actuellement un marché d'environ 10 millions de passagers par an. Selon lui, le développement des aéroports membres est plutôt appréciable, compte tenu des tendances à la hausse du trafic aérien au cours des prochaines décennies. « Les actions de réorganisation de la gestion aéroportuaire, avec une implication du privé dans l'actionnariat des aéroports et le dynamisme affiché des gestionnaires sont des signes d'optimisme. »



Les membres statutaires de l'UGAACO ont approuvé « un programme d'activités audacieux tenant compte des besoins régionaux des aéroports » pour accompagner cette dynamique croissante, lors de la 12e assemblée annuelle au Burkina Faso l'année dernière. Celui-ci a été élaboré en concertation avec la Commission Africaine de l'Aviation Civile (CAFAC) et le bureau régional de l'OACI.

L'un des points prioritaires porte sur la certification de l'ensemble des aéroports membres de l'UGAACO. « La problématique de la certification à mon sens et c'est là un avis d'expert, repose sur la gestion des infrastructures, la formation, la disponibilité en personnel technique pertinent et les procédures opérationnelles », explique Simon Kabore. A ce

jour, la moitié des aéroports de l'UGAACO sont certifiés, les autres, soit en instance de certification, soit bien engagés dans le processus.

Plusieurs aéroports à l'instar de l'Aéroport d'Abidjan (AERIA), l'Aéroport de Lomé (AIGE) ou encore celui de Dakar (AIBD) sont certifiés OACI et disposent de l'Agrément TSA (Transportation Security Administration), leur permettant de traiter des vols au départ et en provenance des États-Unis.

L'UGAACO conscientise également les aéroports membres à adhérer au programme Airport Carbon Accreditation. « Sur ce plan, tout aéroport indépendamment de sa taille, doit assumer ses responsabilités quant à son impact sur sa communauté et le milieu environnant. »

Depuis l'étendue du programme en juin 2013 à la région Afrique, l'Aéroport d'Abidjan se situe au niveau neutralité carbone et l'Aéroport de Libreville (ADL) au niveau 2.

Les taxes et redevances aéroportuaires, toujours élevées préoccupent également l'UGAACO. L'Union oriente désormais ses réflexions sur les mécanismes alternatifs pour accroître les revenus de ses aéroports membres. « Nous organisons des séminaires de réflexion sur l'amélioration des recettes extra-aéronautiques et l'optimisation des investissements. Toute source de profit sur l'aéroport doit être judicieusement exploité, tout en veillant à ne pas compromettre les objectifs en matière de sécurité, de sûreté et de l'environnement. »

Pour une meilleure rentabilisation des aéroports membres de l'UGAACO, Simon Kabore prône, l'implication du secteur privé et la mutualisation des investissements. « Le secret de la rentabilité consiste à l'implication des entreprises privées dans la gestion de nos aéroports. La taille de nos plateformes, et par conséquent l'étroitesse des ressources, devrait inviter les gestionnaires à privilégier la mutualisation de certains postes de dépenses. »

« Les concessions actuellement en cours sur plusieurs aéroports membres semblent offrir des résultats probants », se félicite-t-il. Il pense que le lancement du Marché Unique du Transport Aérien (MUTAA) en janvier 2018 aura un effet

multiplicateur sur le développement des infrastructures aéroportuaires en Afrique. Il indique à cet effet que l'UGAACO se positionne comme un contributeur aux réflexions « sur l'harmonisation des redevances et des taxes, et une meilleure régulation de l'activité » pour faciliter la pleine mise en œuvre de la libéralisation du ciel africain.

Dans sa démarche vers la mutualisation des efforts et le partage des expériences, l'UGAACO a signé plusieurs conventions de partenariat notamment avec la SITA (Société internationale de télécommunication aéronautique) et l'ENAC (L'École nationale de l'aviation civile) de France. Elle peaufine actuellement les accords de collaboration avec ACI. Simon Kabore envisage par ailleurs la formalisation d'une plateforme de collaboration officielle avec la CAFAC, l'OACI et l'Union des Aéroports Français et Francophones Associés (UAF&FA).



La réussite des ambitions de l'UGAACO passe indubitablement par la maîtrise des finances et la bonne gouvernance, insiste Simon Kabore. Pour mener à bien le déploiement de son plan d'action, il mise sur l'amélioration des ressources financières.

Depuis juin 2018, le budget global de l'UGAACO a connu une évolution de l'ordre de 506%, avec une tendance en 2019 estimée à 640% (par rapport aux exercices budgétaires 2017 et antérieurs). « Nous devons imaginer des ressources nouvelles pour suppléer voire remplacer à terme les cotisations des membres », explique-t-il.

Avec un budget conséquent, l'UGAACO pourra consolider son équipe et avoir une ressource humaine compétente, et améliorer sa masse salariale.

Un manuel sur les procédures administratives et financières pour garantir la transparence dans le fonctionnement des instances est en cours de préparation.

L'UGAACO tiendra sa 13e assemblée annuelle du 12 au 13 juillet 2019 à Bamako au Mali. Elle se positionne davantage dans une

SUMMARY

THE SPRINGBOARD FOR PROGRESS

Launched 12 years ago and based in Dakar, Senegal, the Union of West and Central African Airport Managers (UGAACO) brings together 17 airports in 16 countries in central and west Africa. The executive secretary of the union, Simon Kabore, talks about current progress.

A former manager of Burkina Faso's airports, and director of civil aviation in his country, Simon Kabore took over as head of UGAACO's executive secretariat in 2017. UGAACO currently represents a market of around 10 million passengers a year.

Kabore is optimistic about the future as air traffic grows throughout the continent.

To support this growth, the 12th annual assembly of the union, held in Burkina Faso last year, approved a bold programme of events developed in consultation with the African Civil Aviation Commission and the International Civil Aviation Organization (ICAO) regional office.

One of the priorities of this programme is the certification by the European Union (EU) of all member airports. Kabore explained: "The issue of certification is based on infrastructure management, training, availability of relevant technical personnel and operational procedures."

To date, around half of the union's airports are certified and the remainder are either certification-pending or well-engaged in the process. Several, such as Abidjan Airport (AERIA), Lome Airport (AIGE) and Dakar Airport (AIBD) have ICAO certification and also have the Transportation Security Administration (TSA) approval, allowing them to handle flights to and from the USA.

The union is also working to raise the awareness of the international airport carbon accreditation programme. "All larger airports must take responsibility for their environmental impact," he said.

High airport taxes and charges are also a concern for UGAACO so it is now focusing on private sector initiatives to increase revenue at its member airports.

Kabore explained: "We organise seminars on the improvement of non-aviation revenues and the optimisation of investments so that anything generating a profit on the airports must be sensibly exploited, while taking care not to compromise safety, security and the environment."

UGAACO will hold its 13th annual meeting on July 12/13 2019 in Bamako, Mali.

■ UGAACO member airports: Abidjan (Ivory Coast), Bamako-Senou (Mali), Bangui-M'Poko (Central African Republic), Conakry Gbessia (Guinea), Cotonou (Benin), Dakar Blaise Diagne (Senegal), Libreville (Gabon), Ouagadougou (Burkina Faso), Yaounde-Nsimalen (Cameroon), Maya Maya de Brazzaville (Congo), Malabo (Equatorial Guinea), Ndjamen (Chad), Niamey (Niger) Nouakchott Oumtounsy (Mauritania), Osvlado Vierra de Bissau (Guinea Bissau), Lome-Tokoïn and Niamtougou (Togo).

● Toute source de profit sur l'aéroport doit être judicieusement exploité, tout en veillant à ne pas compromettre les objectifs en matière de sécurité, de sûreté et de l'environnement. ●

SIMON KABORE

perspective d'élargissement et de consolidation de ses bases afin de créer une bonne synergie où l'échange d'informations, d'expériences et d'expertise entre membres serait systématisé, et où la mise en commun des stratégies et des moyens de croissance serait renforcée.

Selon Simon Kabore, « ces espérances, conjuguées avec l'avènement du MUTAA, devraient à terme, raffermir la coopération sud-sud entre les gestionnaires d'aéroports et conséquemment améliorer la gestion de leurs plateformes ».

■ Les 17 aéroports membres sont composés des aéroports internationaux de : Abidjan (Côte d'Ivoire), Bamako-Senou (Mali), Bangui-M'Poko (Centrafrique), Conakry Gbessia (Guinée), Cotonou (Benin), Dakar Blaise Diagne (Sénégal), Libreville (Gabon), Ouagadougou (Burkina Faso), Yaoundé-Nsimalen (Cameroun), Maya Maya de Brazzaville (Congo), Malabo (Guinée Equatoriale), Ndjamen (Tchad), Niamey (Niger), Nouakchott Oumtounsy (Mauritanie), Osvlado Vierra de Bissau (Guinée), Lomé-Tokoïn et Niamtougou (Togo).

Libreville réalise le rêve gabonais

Gabon Special Economic Zone (GSEZ) Airports, filiale du groupe Olam a confié au groupe d'ingénierie français Egis la mission de supervision et de contrôle des travaux du nouvel aéroport près de Libreville. Les enjeux avec Vincent Chappard.

Egis ambitionne de renforcer l'attractivité de cet aéroport pour les investisseurs privés. Le groupe veille surtout à ce que cette infrastructure soit un outil efficace au service du développement et de la diversification de l'économie gabonaise.

Comme le volume du trafic aérien est encore limité en Afrique et que l'économie du transport aérien sur le continent est fragile, l'investissement dans le nouvel aéroport doit être bien ajusté.

« Il faut faire preuve d'inventivité dans la mobilisation des ressources financières pour que la charge du financement de l'aéroport ne pèse pas trop lourdement sur les compagnies aériennes, les passagers et les exploitants de la plateforme », a déclaré Olivier Baric, Aviation Director, Africa d'Egis à African Aerospace.

Selon le président directeur général de GSEZ, Gagan Gupta « la connaissance et la compréhension qu'Egis du contexte local ainsi que son immense expérience en matière de construction d'aéroports » permettront aux deux groupes, à l'unisson, de fournir un aéroport de pointe à Libreville.

Cet aéroport va dit-il réaliser le rêve gabonais de transformer Libreville en un hub aéroportuaire en Afrique centrale et de l'Ouest en améliorant la connectivité.

Le projet prévoit le déploiement de 28 experts à la pointe des avancées technologiques dans leurs domaines respectifs à plein temps. De même, 600 travailleurs durant tout le cycle de vie du projet vont se relayer pour fournir les services stratégiques d'un aéroport moderne.

A noter que l'aéroport de Libreville est l'une des concessions « pionnière » du groupe en Afrique, datant de 1988. Il est un partenaire essentiel grâce à son savoir-faire et son expertise dans les domaines de l'exploitation et de la



Olivier Baric : « Les aéroports régionaux doivent s'adapter pour répondre aux besoins de développement du trafic domestique et alimenter des hubs efficaces »

gestion aéroportuaire, de l'aéronautique et extra-aéronautique et ATC.

Le groupe mise par ailleurs sur la formation pour capitaliser de bonnes pratiques professionnelles et réaliser ses engagements de transfert de compétences. Depuis 2017, le CMA d'Abidjan propose des formations pratiques, adaptées et accessibles à tous les acteurs de l'aviation en Afrique.

De plus, les filiales d'Egis au Cameroun, au Kenya et à Madagascar ont acquis une solide expérience de supervision et de contrôle de travaux aéroportuaires. Elles partagent avec le CMA « cette vision du développement des ressources humaines sur le continent pour répondre aux besoins futurs. »

« Les perspectives du CMA sont encourageantes mais nous ne sommes pas encore à l'équilibre. Nous cherchons à consolider le modèle en nouant des partenariats pour mutualiser nos efforts. »

Le groupe veut accompagner les aéroports des capitales africaines pour relever les défis en matière d'infrastructures et de la formation.

Selon Olivier Baric, les aéroports régionaux doivent s'adapter pour répondre aux besoins de développement du trafic domestique et alimenter des hubs efficaces. Il faut également « un alignement des stratégies de développement des compagnies aériennes et des programmes d'investissement » favorisant la coordination des acteurs du transport aérien.

Egis compte se positionner le plus en amont possible sur des projets d'envergure en Afrique. Les projets sont nombreux sur ce vaste continent mais leur maturation est souvent plus lente qu'ailleurs.

« En Afrique, comme ailleurs, l'innovation et la transition énergétique sont des enjeux centraux. » ■

SUMMARY

LIBREVILLE TO REALISE GABONESE DREAM

Gabon's planned new airport at Libreville will help to realise the dream of turning the city into a key airport hub in central and west Africa, through enhancing connectivity, providing jobs and increasing the country's status in the region, writes Vincent Chappard.

The driving force behind the airport is local company, Gabon Special Economic Zone (GSEZ) Airports, a subsidiary of the Olam Group.

It has commissioned the French

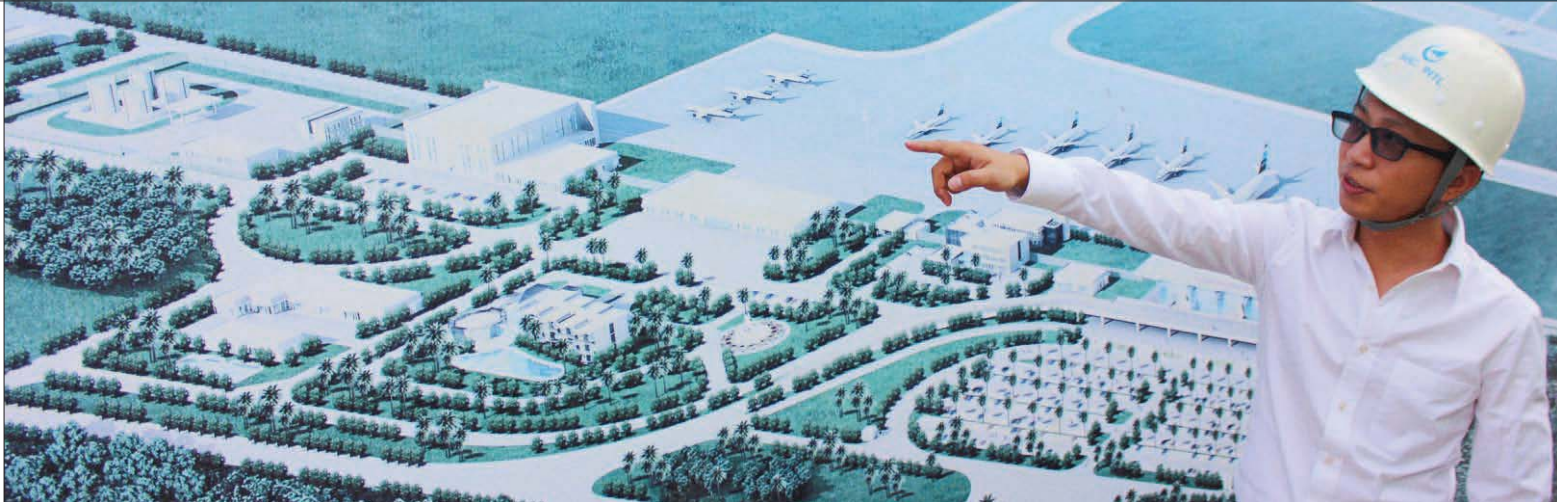
engineering group Egis – active in Africa since 1988 with successful projects in Cameroon, Kenya and Madagascar – to supervise and control construction of the new facility.

As the volume of air traffic is still limited in Africa – and the economy of air transport on the continent is fragile – the investment in the new airport is of critical importance.

"We must be inventive in the mobilisation of limited financial resources

so that the burden of paying for the airport does not weigh too heavily on airlines, passengers and operators of the platform," said Olivier Baric, Egis' aviation director, Africa.

According to GSEZ CEO, Gagan Gupta: "Egis' knowledge and understanding of the local conditions, as well as its immense experience of airport construction, will allow both groups, in unison, to provide national success in Libreville." ■



Zambia's Copperbelt plan is belting along

Su Zhiyi: "The runway and taxiways are almost completed."

PICTURE:
HUMPHREY NKONDE

The \$397 million Copperbelt International Airport, being developed by the Zambia Airports Corporation Limited (ZACL), is now 35% complete. Humphrey Nkonde looks at the project.

ZACL has contracted Aviation Industry Corporation of China (AVIC) International to construct the airport 13km west of Ndola, the provincial headquarters of the Copperbelt. The aerodrome is being constructed on a 2,000 hectare piece of land near where the second United Nations secretary general, Dag Hammarskjöld, died in a plane crash in September 1961.

It is connected by a paved road to the Ndola-Kitwe dual carriageway to Kitwe, a major mining town 36km west of the new airport.

Plans are under way to connect the airport by road to Mufulira, another nearby mining town on the Copperbelt, Zambia's major mining region rich in copper, cobalt, gemstones and limestone.

The new airport will replace Ndola's Simon Mwansa Kapwepwe International Airport, which started as a military base for the British Royal Air Force in 1938.

The old airport has served the Copperbelt and the north-western region from the 1950s.

Copperbelt International Airport will be able to handle large aircraft, such as the B747-800.

It will have a 3,500 metre code 4E asphalt runway, three aero bridges, eight aviation parking stands and a 132,000sqm double-deck terminal building linked to a viaduct.

Other facilities will include an air traffic control (ATC) tower, a business centre, aircraft hangar and a fuel depot that will hold one million litres of aviation fuel, in addition to other ancillary amenities.

AVIC project manager, Su Zhiyi, confirmed in February that construction work was 35% complete.

He was accompanied on a media tour by AVIC officials and Simon Mwansa Kapwepwe International Airport manager, Joseph Mumbi, and other ZACL officials.

The contractor had finished constructing the apron at the time of the tour.

"The runway and taxiways are almost completed," Su said. "Only the last layer of asphalt concrete surface remains to be applied on the runway and taxiways this year."

AVIC has also begun constructing 15 individual buildings in the terminal area simultaneously.

"The structure of the ground floor and the first floor of the terminal building have been completed," Su explained. "All the piling works for the viaduct have also been finalised."

Additionally, 10 individual buildings, including the business centre, ATC building, special garage, water supply station, east and west aeronautical ground lighting (AGL) sub-stations and quarantine warehouse had been capped.

The Copperbelt international Airport's additional facility, not present on a large scale at Simon Mwansa Kapwepwe International Airport, is the air cargo transit terminal.

It is expected that the new airport will have a capacity to handle a million tonnes of cargo per annum.

That is possible because air cargo destined for the Copperbelt and the North Western Province, dubbed the 'New Copperbelt' due to new mining activities, terminates at Lusaka's Kenneth Kaunda International Airport and is moved by road.

□□□□□

Another advantage of the new airport in handling cargo is that it is about 20 minutes by flight to Lubumbashi in Congo's Katanga Province, another major mining region.

The new airport is also strategically positioned between the Nairobi and Johannesburg aviation hubs and will serve as an ideal technical stop for aircraft flying between those hubs or to and from the Great Lakes region.

Construction of the new international aerodrome started on October 16, 2017 and is expected to be completed on October 16, 2020.

The Copperbelt's new airport has become the second largest greenfield project from the time Northern Rhodesia, now Zambia, gained political independence from Britain in 1964. The first was Kenneth Kaunda International Airport.

Zambia has mobilised more than \$1 billion, mainly through aid financing from China as loans to the Zambian Government for airport development. The funds are for ZACL's five-year strategic plan (2017-2021) aimed at developing and upgrading infrastructure at the country's four international airports to make Zambia a major aviation hub in Africa. ■

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Les autorités marocaines accompagnent le développement du secteur aéronautique depuis plusieurs années par le biais d'un cursus de formation adapté aux besoins et de niveau international. Des détails avec Vincent Chappard.

LA FORMATION AU COEUR DE LA CROISSANCE

L'industrie aéronautique au Maroc poursuit son essor et a enregistré 20% de croissance organique en 2017. Avec des exportations en hausse de 13,8% en 2018, elle s'impose comme le bon élève du Plan d'accélération industrielle (PAI) du royaume.

Les autorités visent un doublement du chiffre d'affaires de ce secteur à l'export pour atteindre deux milliards de dollars d'ici cinq ans. Quatre écosystèmes ont ainsi été lancés voici trois ans dans le cadre du PAI dans les filières de l'assemblage, du système de câblage électrique et harnais (EWIS), de la MRO et de l'ingénierie.

Le Maroc a ainsi attiré de nouveaux opérateurs (Hexcel, Daher, Thyssenkrupp Materials Services) et intégré de nouvelles technologies (composites, impression 3D, etc.).

Selon Karim Cheikh, président du GIMAS, les défis sont continus au Maroc dans un secteur qui appelle toujours à l'amélioration des performances tant technique qu'industrielle. Cela implique également le développement d'une offre de formation pour répondre aux besoins des industriels et aux standards de l'industrie aéronautique mondiale.

Le Maroc a su anticiper et mis en place un programme de formation adapté aux besoins de ce secteur prometteur.



Formation aux matériaux composites à l'IMA.

C'est un enjeu stratégique car la disponibilité et la qualité des ressources humaines sont à la base du développement et de la compétitivité de cette industrie.

L'Institut des métiers de l'aéronautique (IMA) fut l'un des premiers centres de formation créé en 2011. Piloté par le GIMAS, l'IMA a débuté des formations dans l'écosystème EWIS. Il privilégie le partenariat et les études en alternance avec les industriels basés au Maroc. Il s'est doté progressivement de moyens industriels et d'outillages utilisés par l'industrie. En 2014, les autorités ont signé un plan d'extension de l'IMA. Le centre de formation a ainsi doublé sa capacité d'accueil trois ans après. Depuis 2018, l'institut propose d'autres filières de formation : peinture, soudure, électronique, ajustage/montage et réparation de composites.



En 2013, l'Institut spécialisé des métiers de l'aéronautique et la logistique aéroportuaire (ISMALA) est venu consolider le programme national de formation pour soutenir la croissance du secteur. C'est l'un des dispositifs majeurs de formation à l'OFPPPT. Il dispose d'une superficie de 15 000m² pouvant accueillir de grandes structures aéronautiques et des machines de production. Il offre aussi un ensemble d'espaces et d'ateliers spécialisés dédiés aux métiers de l'industrie.

L'ISMALA peut accueillir 2000 stagiaires. Des formations sont dispensées dans huit filières couvrant un large spectre de métiers comme la maintenance aéronautique, la mécatronique, l'usinage sur machines-outils à commande numérique, le traitement de surfaces, l'ajustage et le montage des cellules d'avions, la chaudronnerie aéronautique, les matériaux composites et la logistique aéroportuaire.

Grâce au partenariat entre l'ISMALA et l'IMA, des formations ont été étendues pour répondre aux besoins de l'écosystème MRO. Pour Karim Cheikh, le Maroc souhaite se développer dans ce secteur mais également dans la technologie de l'avion de demain, le composite et l'électronique embarquée. Ces métiers ont un fort potentiel au Maroc et dans la région. ■

SUMMARY

TRAINING AT THE HEART OF GROWTH

Morocco's industrial acceleration plan (PAI) has been supporting the development of training in the kingdom's aeronautics industry for some years and this initiative appears now to be bearing fruit as the sector recorded 20% organic growth in 2017.

Exports in 2018 were also up by 13.8%. The plan aims to double export turnover in the aeronautics sector to reach \$2 billion within five years.

Four eco-parks were launched under PAI – covering assembly, electrical wiring harness systems (EWIS), MRO and engineering – and this has attracted new operators (Hexcel, Daher and Thyssenkrupp Materials Services) and introduced new technologies like composites and 3D printing.

According to Karim Cheikh, president of the Moroccan Aerospace Industries Association (GIMAS), the challenges are ongoing in a sector that demands continuous improvement. He believes that training is the key enabler helping Morocco to keep pace with the global aerospace industry.

As he said, the availability and quality of excellent human resources are the foundations of both development and competitiveness in the industry. So the country's Institute of Aeronautical Trades (IMA) was one of the first training centres created in 2011.



Driven by GIMAS, IMA started training in EWIS, and an extension to IMA has doubled its capacity. Since 2018, the centre has offered additional training courses, including aircraft painting, welding, electronics, fitting/assembly and composite repairs.

The Specialised Institute of Aeronautics and Airport Logistics (ISMALA) came into being in 2013 and it can house around 2,000 trainees. Training courses are offered in sectors such as aeronautical maintenance (MRO), mechatronics, computer-controlled machining, surface treatment, fitting and mounting of aircraft cells, aeronautical structures, composite materials and airport logistics. ■



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The fourth Aviation Africa Summit and Exhibition is sub-Saharan Africa's largest aviation event. **Alan Peaford, Marcelle Nethersole, Victoria Moores, Kaleyesus Bekele and Romuald Ngueyap** were in Kigali for the event. Pictures by **Ian Billingham**



Rwanda President Paul Kagame delivers his opening address at the summit, which attracted visitors from 92 countries.

SAATM OPENS THE DOOR TO OPPORTUNITY

As President Paul Kagame, the popular and pioneering Rwanda leader, entered a packed exhibition and conference room at Kigali's iconic national convention centre, delegates from around the world – and in particular from almost two-thirds of the African nations – rose as one and began an impromptu applause.

Kagame was flanked by an entourage of some of the biggest names in Africa's aviation industry including government ministers, directors general of civil aviation, and air chiefs of staff from across the continent.

The president is as popular with the aviation industry as he is with his own people, where his approval ratings are more than 90%.

During his recent term of office as the chairperson of the African Union (AU), he witnessed the signatures of other African leaders committing to the single African air transport market (SAATM) – the pan-African open skies agreement – and steadfastly encouraged the continent's governments to press on with implementation.

It was a message he was keen to reiterate as he formally opened the summit.



Paul Kagame: SAATM is a key component in Africa's bid to achieve its potential.

"Sixteen countries in Africa are landlocked, including Rwanda. That is almost one-third of Africa. But every country is air-linked, so geography should not be seen as an excuse for underdevelopment," he said.

Kagame told the audience, which included delegates and visitors from 92 countries, that the SAATM was not a stand-alone aviation issue, but, in fact, a key component in Africa's bid to achieve its potential.

"The full promise of this pact only

becomes apparent in the wider context of the African Continental Free Trade Area and the Protocol on the Free Movement of Persons, which a number of countries also signed last year. Initiatives like the common-format African passport, and the push to remove visa requirements for Africans travelling in Africa, are also significant developments," he said

"It is important to attract more countries to join SAATM and to fully implement its provisions.

"Protectionism among ourselves is a short-sighted policy, which only serves to keep our continental market fragmented, inefficient, and expensive, thereby reducing opportunities for African firms.

"Removing barriers on the movement of goods and people means there will be steadily increasing demand for commercial air services in the years ahead," he added.

Zouréatou Tchakondo Kassa-Traoré, the minister of infrastructure and transport from Togo – whose president is the current 'AU champion' for SAATM – urged African nations to not wait for others to commit to the cause but, instead, begin implementation to open the door to new routes and relationships.

Continued on Page 68

AVIATION AFRICA



President Kagame takes a look at the Airbus A350 XWB as he stopped at the European manufacturer's booth.

CONTINUED FROM PAGE 67

Africa has targeted 2063 for the full delivery of the benefits, the Togo minister said, but another of the keynote opening session speakers at the summit was concerned.

Akbar Al Baker, the chairman of the International Air Transport Association (IATA) and the group chief executive of Qatar Airways, said: "It is called Agenda 2063, but why so long? You could do this quicker."

Using the latest IATA statistics Al Baker said: "Despite a population estimated at 1.3 billion in 2018, and expected gross domestic product (GDP) growth rate of 4% in 2019-2020, Africa remains an under-served market. Although it makes up 16% of the world's population, it only captures approximately 2.5 % of the world's total number of air travellers.

"And, despite an average GDP growth of 4% in the past five years, only 1.6% of the global freight tonnage was carried through Africa in 2017.

"Africa's current performance in aviation clearly does not reflect its great potential."



Kagame confirmed the opportunity closing this gap could bring to the aviation industry as a whole. "One industry analysis has calculated the requirement for new aircraft in Africa over the coming generation at more than 1,000, with a value exceeding \$150 billion," he said.

Kagame and the VVIP party toured the exhibition hall, where more than 100 exhibitors from four continents were keen to show the services and equipment available to the growing African market.

Airbus was showcasing the full spectrum of its business, products and services, from commercial aircraft and helicopters to unmanned aerial systems and satellite imaging.

"The Aviation Africa summit has established itself as an important business event on the African calendar," said Hadi Akoum, vice president, for sub-Saharan Africa & the Indian Ocean islands. "With urbanisation, population growth and economic expansion, Africa's air travel market is doubling in size every 15 years, making it one of the fastest expanding markets.

"When one takes a broader view, aerospace in Africa also presents significant opportunities for industrial, social, knowledge-based and entrepreneurial partnerships that are essential to sustainable development."

The Aviation Africa event is organised by Times Aerospace, the publisher of *African Aerospace* magazine. ■

ACTION PACT

TERERA MEKONNEN TAKES UP THE CHALLENGE TO TURN THE SAATM DREAM INTO A REALITY

Delegates at Aviation Africa heard that the key building blocks are now in place for the single African air transport market (SAATM), with several key meetings planned to progress the initiative in 2019.

On January 8, Tefera Mekonnen took up his new role as secretary general of the African Civil Aviation Commission (AFCAC), the body charged with making SAATM a reality for Africa.

SAATM officially launched in January 2018. Unfortunately, former AFCAC secretary general, Iyabo Sosina, came to the end of her term that same month, leaving the body without a permanent secretary general for a whole year – at a pivotal time for the SAATM project.

Tefera's appointment gave AFCAC the stability it needed to secure \$4.7 million in SAATM funding from the African Development Bank. AFCAC will use this money to become fully operational as the executing agency of the Yamoussoukro Decision (YD), which forms the legal foundation of SAATM.

Today, AFCAC has just two people working on SAATM, a director and one air transport expert. The funding means three more experts can join the team, with recruitment starting immediately.

AFCAC's SAATM specialists are also moving into larger offices, provided by the

Agency for Aerial Navigation Safety in Africa and Madagascar (ASECNA), which is co-located with AFCAC in Dakar. "From there, we will be able to launch full operationalisation," Tefera said.

By signing up to SAATM, states reaffirm their original commitment to YD. As of March this year, 28 African states had committed to SAATM, but only a few had gone through all seven concrete steps to demonstrate their commitment to SAATM. The steps include removing restrictive provisions from bilateral agreements and member states notifying one another that their market is open. Another is the celebration of YD day. Not all of them are equal.



"For us, it is not relevant [for them] to complete every one," Tefera said, adding the seven steps – which were developed during the launch phase – have become cumbersome and need to be refined. "I am not interested in numbers; I am interested in implementation."

Over the past year, 16 of the 28 SAATM member countries have signed a memorandum of implementation (MoI), committing to unconditional and immediate implementation of all the provisions of the YD. This became the



OPEN SKIES



Jean de Dieu Uwihanganye: The Rwandan Government will be working alongside the organisers to grow the event.

Kigali to play huge part in Aviation Africa future

Aviation Africa show organiser, Times Aerospace, has confirmed plans to anchor the event to Kigali every two years in collaboration with the Rwanda Government.

The intervening years will be held in other locations around Africa with Ghana targeted for the 2020 event.

"It is an exciting time for aviation in Africa and we are delighted at the number of governments that want to host our event because of the way it works across the whole airborne industry from airliners to drones," said managing director Mark Brown.

"I think we are being recognised for the brilliant face-to-face networking opportunities at the event and for the high calibre of participants."

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Jean-Paul Boutibou, vice president for Bombardier commercial aircraft in Africa, said: "We met with 17 airline C-level executives, the most we have ever done."

Rwanda's Minister of Transport, Jean de Dieu Uwihanganye, said the Rwandan Government would be working alongside the organisers to grow the event and to develop it to include static and even flying displays.

The country's president also backed the collaboration as an important part of Rwanda's aviation investment.

"Rwanda intends to continue investing in aviation infrastructure, including growing our national carrier, RwandAir, and inaugurating a new state-of-the-art international airport in the near future," said President Paul Kagame.

"The Aviation Africa Summit will continue to be the essential meeting point for industry and government as these transformational changes occur."

eighth step, effectively replacing the previous seven. Once a state signs the MoI, it is uploaded to the AFCAC website, notifying other members that their market is liberalised.

"I haven't received any complaints from airlines, so it means that states are implementing [YD]," he said.

In late February, Tefera met with air-transport chiefs from the 28 SAATM states. He showed each state's implementation status at that meeting.

"Most of them, maybe 22 of them, have implemented the concrete measures, but they haven't reported it," Tefera said.

They were given until March 15 to send their updated progress in writing, ahead of a meeting of the 28 SAATM transport ministers in Cape Verde on March 29.

During the second week of April, a wider meeting of transport ministers from 55 African states will gather in Cairo, where further SAATM sign-ups are expected.

In July, Tefera will present a status report to the African Union (AU) executive committee, made up of foreign affairs ministers. The president of Togo, who is championing SAATM, will then present these findings to the AU heads-of-state summit. "More countries will join very soon," Togo transport minister Zouretoutou Tchakonda Kassa-Traore said. The target is to have 40 SAATM members by 2020.

"We need to move from the narrative of unrealised potential into what we need to do and why we need to do it," said Adefunke Adeyemi International Air Transport Association (IATA) regional head of member and external relations. "The idea of liberalisation works. It is already working in Africa on a limited basis. The idea of SAATM is to expand it across the continent."

Most of the SAATM legal framework is now in place, including rules for consumer protection and fair competition. The AU and AFCAC are looking at using the dispute-settlement mechanisms, which were adopted for the Common Africa Free Trade Area, for SAATM. In the meantime, airlines can use the dispute-settlement provisions of YD, or rules within existing bilateral air-service agreements, said Tefera.

AFCAC will now finalise its action plan, releasing a quarterly progress update. This strategy includes synchronising AFCAC's work with other stakeholders, ahead of a push for greater awareness and implementation. Part of the awareness plan will include working with finance and infrastructure ministers to get them involved, as well as a new study on the socio-economic benefits of SAATM, which is expected to be completed in 2019. ■

Tefera Mekonnen: "I am not interested in numbers; I am interested in implementation."

• See also: Mekonnen's Law: Page 86



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While Aviation Africa had more than 60 airlines represented at the event, it was a non-African carrier that drew the most attention.

Akbar Al Baker, the fiery chief executive of the Qatar Airways group, gave a keynote address in his capacity as chairman of the governing board of the International Air Transport Association (IATA).

He also took part in a no-holds-barred discussion on the main stage with *African Aerospace* editor-in-chief Alan Peaford.

Many African carriers have grumbled in the past about the impact that Gulf airlines – particularly the ‘Big Three’ of Etihad, Emirates and Qatar – have had on the viability of their own operations.

“With the pan-African vision embraced by the single African air transport market (SAATM), the day will come when Africa starts negotiating comprehensive air transport agreements with other countries and economic blocs. In an under-served market of 1.3 billion people, the pie is big enough for everyone, so there is no reason to be concerned about competition,” Al Baker said.

In the discussion he said that airlines like EgyptAir, South African and Ethiopian Airlines have been around for decades. “They have had plenty of time to dominate,” he said. “They just failed to do it.”



Al Baker said that in 2018, some 127 million passengers were carried to, from and within Africa, generating almost \$30 billion in revenue. “Around 71% of these passengers originated or ended their journey outside of Africa and, interestingly, accounted for 85% of the total revenues,” he said. “This means that intra-African air services contributes only 15% of the total industry revenue. Governments should leave behind protectionist approaches to regulating aviation and embrace liberalisation.”

Al Baker said that the African airline industry needed a completely new approach towards collaboration.

“There is a need to consolidate the purchasing power for aircraft, as well as maintenance, catering and other services,” he said. “For example, establishing joint maintenance, repair and overhaul (MRO) facilities is one area where consolidation would greatly benefit the African aviation industry. Joining forces to obtain better prices from suppliers will have a direct positive effect on the bottom line and long-term profitability.”

He explained how tough negotiations had benefited his airline: “I squeeze until I get the last drop from the original equipment manufacturers (OEMs),” he said.



AL BAKER ON THE FRONT FOOT

One-to-one: Akbar Al Baker had plenty of strong views when grilled by *African Aerospace* editor-in-chief Alan Peaford.

Al Baker said that the shared vision based on liberalisation would set the framework for a successful future in aviation... for Africans. But, he warned, for Africa’s full aviation potential to materialise, a decisive shift in the current hubbing dynamics was needed.

“This shift will be based on the emergence of medium-sized airlines in under-served markets, which will also encourage the development of medium-sized super-connecting hubs adopting the latest airport technologies to ensure the best passenger experience and the highest levels of efficiency in operations,” he said.

“Global connectivity brings opportunities and prosperity to communities and countries whose potential has been overlooked for too long,” he added.

Al Baker said that currently more than 50% of traffic passed through just 10 airports in seven countries. “The aim should not be increasing the number of protected hubs or contributing to the wealth of their alliance partners. Rather, the vision should be about freedom, collaboration and long-term sustainable investments in local infrastructure, human capital, and capacity-building. We believe in Africa’s aviation potential and stakeholders should be ready to offer a solid and long-term partnership.”

The Qatar CEO said that Africa “is our

next growth market”. His airline already operates passenger services to 21 destinations in 15 African countries. Plans to increase these were hampered by the politically based dispute between Qatar and other Arab countries, including Saudi Arabia, the UAE, Bahrain and Egypt.

“Due to the unjust blockade against Qatar, we had to suspend some planned new destinations, especially in west and central Africa,” Al Baker said. “This highlights how the illegal blockade has not only affected my country but also other countries, mainly African. The additional flight hours required to fly around the blockaded air space has meant some of these operations are no longer commercially viable. However, we continue to explore alternative routes and potential partnerships that may make these routes economically viable.”

Al Baker said that the airline would look on investing in well-run airlines and businesses. “Qatar Airways’ vision is about freedom, collaboration and long-term sustainable investments in African infrastructure, human capital, and capacity-building. We strongly believe in Africa’s aviation potential, and we are ready to offer a solid and long-term partnership,” he said.

■ See the full discussion between Akbar Al Baker and *African Aerospace*’s Alan Peaford on www.africanaerospace.aero

Governments should leave behind protectionist approaches to regulating aviation and embrace liberalisation.
AKBAR AL BAKER



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CONTINENT GETS FIRST LOOK AT THE G500

The case for business aviation was made at Aviation Africa by Gulfstream, which brought two aircraft to Kigali, including the recently certificated G500 in the colours of Qatar Executive, the launch customer of the technologically advanced jet that was making a show debut in Africa.

"We have a very strong presence on the continent with more than 80 aircraft – and that is pretty significant," said Gulfstream's Heidi Fedak. "It's a big deal for us to be here and is an indication of how important we think this market is," she said.

The G500, which can fly non-stop from Kigali to London, was joined on the ramp by the super midsize G280.

The US-based manufacturer welcomed a host of top level visitors to view the aircraft, including government leaders, ministers and air chiefs of staff. ■



NEXUS GOES TO THE HEART

Aviation services company, Nexus, said it is growing its investment in Rwanda.

The host sponsor for the Aviation Africa show is focusing on safety and training and outlined its current successes to delegates at the event.

"We strategically placed our fully equipped state-of-the-art flight operations centre right in the heart of Africa, right here in Rwanda," said Abdulla Al-Sayed, chairman of the Saudi-based company.

"We currently provide a comprehensive suite of solutions, such as training programmes (the company owns Wyvern, the global safety specialists) security services and flight dispatch and handling." ■

Abdulla Al-Sayed: "We provide a comprehensive suite of solutions."

THE SEARCH IS ON TO RESCUE AFRICA'S SAR SYSTEM

While Africa is grappling with challenges of adopting a single sky for commercial operations, one keynote presenter at the summit was calling on the industry to come together for an even more important collaboration – to create a single search-and-rescue (SAR) sky over the continent.

Australian Brian Day outlined real examples of chaotic SAR failures across the region and elsewhere in the world as he addressed the packed conference hall.

“Global SAR is in a state of malaise; a malaise that has been lingering for so long that the industry has become accepting of it. Wider society, though, after recent catastrophes, is questioning the very integrity of the aviation industry on account of SAR,” Day said.

The speaker, who for five years managed the International Civil Aviation Organization/African Civil Aviation Commission (ICAO/AFCAC) search-and-rescue project and facilitated the global civil aviation SAR services from the ICAO HQ, argued that SAR provision is inconsistent and has failed to keep up with technology changes.

□□□□□

“Effective air-to-ground radio communications in the 1950s could, of course, only be accomplished through VHF and HF systems,” he said. “Now, in 2019, with satellite communications and navigation being the norm, we could communicate and conduct a SAR operation anywhere on the planet from this conference room.”

There is often a ‘protectionist’ approach to SAR operations through the collection of search- and-rescue regions (SRR)s. “Each SRR bears the name of the state whose sovereign area it approximates. That’s a little unfortunate because it promotes the idea that a SAR service and sovereignty are associated – but SAR, in fact, is provided on the basis only of need and entirely regardless of citizenship or sovereignty,” said Day.

“In a major SAR action, many assets and resources are likely to be required – particularly suitable aircraft with, perhaps, a homing and supply drop capability, detection equipment, observers, direction finders, datum



marker buoys, emergency locator transmitters and many more.

“No SAR provider has access to all these assets in-house. Most are only available from the military, maritime, the police, commercial operators and other specialist providers,” he added.

Day said that an ICAO audit had uncovered some alarming statistics:

- 43% of the world’s states are lacking a SAR legal framework, a nominated SAR authority, a national SAR committee and a national SAR plan;

- 46% of states are lacking a sufficient SAR-skilled workforce;
- 40% of states are lacking any agreement that provides for civil/military cooperation;
- 36% of states are lacking any agreement that provides for aeronautical/maritime cooperation;
- 70% of states’ SAR staff have not been trained, exercised or certified;
- 35% of states have no standing authority for entry of SAR aircraft into foreign territory;
- 72% of states’ SAR staff lack proficiency in the English language; and
- 34% of states have no designated point of contact for the receipt of distress alert data.

Day said change was vital.

“It is time for a fewer number of

Each SRR bears the name of the state whose sovereign area it approximates. That’s a little unfortunate because it promotes the idea that a SAR service and sovereignty are associated – but SAR, in fact, is provided on the basis only of need.

BRIAN DAY

efficient RCCs to be mandated with the responsibility for major SAR actions across regions. These centres should wear the mantle of regional aviation rescue coordination centres. The regions of their responsibility should be determined by operational needs and operational capacities and without any regard to any misplaced concerns of national identity and sovereignty.”

□□□□□

Africa has already demonstrated this can be done in the maritime rescue service.

“Five regional maritime RCCs – Morocco, Monrovia, Lagos, Cape Town and Mombasa – with 26 sub-centres were established to work cooperatively to provide effective SAR coverage in a previously deficient and extensive area,” he said. “The same could and should happen with aviation.

“The wherewithal to transform aviation SAR in Africa is available to us in this room. It can be easily done. Africa can lead aviation SAR restructure, just as it has for maritime.

“This is an opportunity for all of us to commit, determinedly, to working towards a single African SAR sky.” ■



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Charis's drones on a mission to fight malaria

There can be stigma and red tape that surrounds the use of drones.

However, Charis Unmanned Aerial Solutions managed to prove to the Rwandan Government and the country's civil aviation authority (CAA) the good it could do and, thus, became the first unmanned aerial vehicles (UAV) company in Rwanda.

Based in Kigali, the company provides a range of UAV services, showing just how diverse drone use can be. It includes crop monitoring, mapping aerial photography and construction monitoring.

It has also recently joined the fight against malaria in Rwanda, using its new DJI Agras drone model that was on display at Aviation Africa.

The aim is to improve the effectiveness of anti-malaria medicament by spraying in zones where mosquitoes lay eggs to reduce their numbers while in their larvae state.

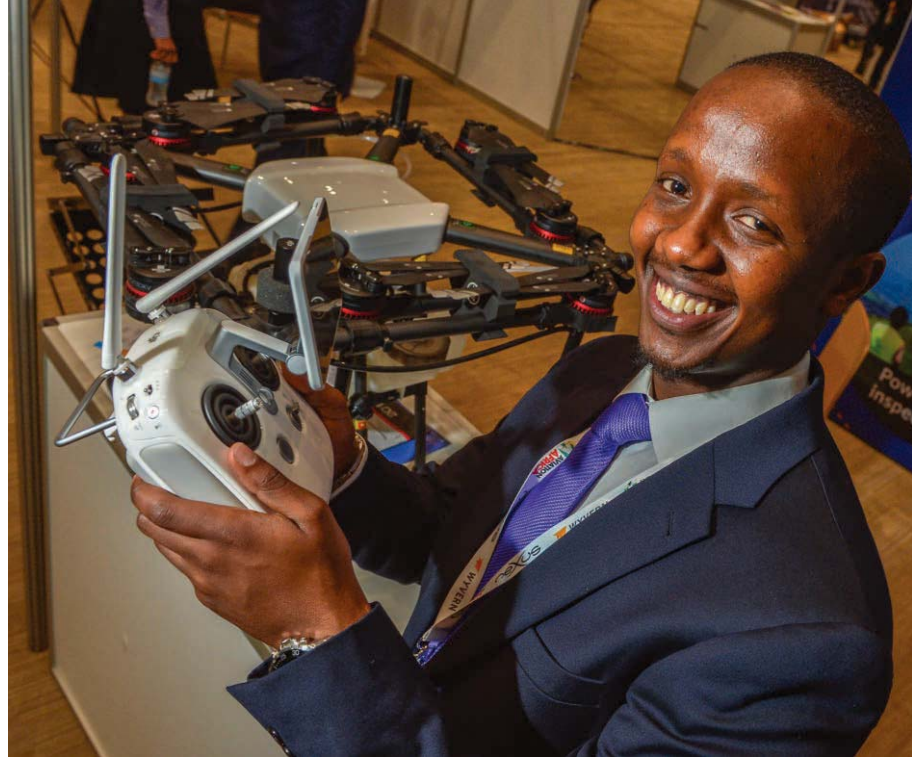
"The drone is fitted with a 10-litre tank, which can be filled with insecticide. It is then programmed to follow pre-mapped routes and spray over fields that host mosquito larvae, which mostly live in stagnant water," explained company CEO Eric Rutayisire Muziga.

The drones have the capacity to fly for about 15 minutes on a single battery and the ability to spray an area of 40 hectares in a day.

"This is an effective method as it can replace the use of manual back-packer sprays. The drone is much more efficient, quick, and safe," said Muziga.

The company, which also has an office in the Ivory Coast, boasts 12 drones offering different applications.

Its importance to farmers is key as drone services include imaging, mappings and offering alerts on the condition and health of crops; identification of pests, disease, water stress and nutrient deficiency. ■



Eric Rutayisire Muziga: "The drone is much more efficient, quick, and safe."

BIRD PROTECTS AGAINST MISSILE TERROR

BIRD Aerosystems chose Aviation Africa to present its airborne missile protection systems (AMPS) MD directional infra-red counter measure (DIRCM) solution for the first time in the region.

"We specialise in developing and deploying two main product lines – AMPS and airborne surveillance, information and observation (ASIO) solutions," said Gur Cohen, marketing director.

The company's AMPS MD uses an advanced laser to counter any incoming missile threat. The system is designed to automatically detect, verify, and foil surface-to-air missile (SAM) attacks by using the DIRCM, which jams the missile's seeker.

"The DIRCM is designed to protect VIP aircraft," explained Cohen. "Our AMPS is already used by several different African customers, protecting head-of-state aircraft and helicopters."

The company's patented SPREOS DIRCM, on which the AMPS MD solution is based, performs multiple functions, including threat confirmation, tracking and jamming of advanced IR guided missiles.

SPREOS slews to the direction of the threat, activates its multi-band radar functionality, confirms and tracks while analysing the data to enable the most effective jamming response. SPREOS then deploys the dual-band countermeasure laser, causing the missile to miss the aircraft.

Alongside its AMPS MD, the company also demonstrated its ASIO solution, also successfully deployed in Africa by several customers for ground and maritime patrol missions.

"This solution enables aerial surveillance of large maritime and ground areas," said Cohen.



Gur Cohen: "The threat to aircraft and helicopters is huge."

"Cost-effective and specially designed to fit the needs of each customer, this is an ideal solution for exclusive economic zone (EEZ) monitoring, illegal fishery surveillance, border protection, poaching, pipeline and railways protection, anti-terror missions and any other airborne surveillance mission – all in one multi-mode special mission aircraft.

"It provides the customer a total solution to detect, track, record, and intercept any illegal activity over the sea or on land."

"Africa faces a real missile threat," said Cohen. "It has terrorist organisations such as Boko Haram, ISIS, and Al Shabaab, all of which are known to use man-portable air-defence systems (MANPADs), which are shoulder-launched missiles that are very easy to get, and easy to use. However, with our very advanced technology, Africa can protect itself against such threats." ■

iFly bridges the aviation gap

There is a preconceived notion outside the aviation industry that, should you manage to get a commercial pilot's licence, your trajectory is forwards and upwards.

But Derek Nseko, managing director of iFly Aviation, said there are still plenty of hurdles to overcome. "For example, once you finish your training, the airline will say it needs 2,000 hours of experience before it can hire you. Where are you supposed to get that and how will it be paid for?"

"This needs to be addressed. All stakeholders have a role to play in the next generation. The industry needs to bridge this."

Set up in 2017, iFly is a social enterprise located in South Africa that looks to encourage youngsters about roles within aviation.

"Initially, there was a focus on just pilots as it was a few of us pilots that started iFly," explained Nseko, who holds a South African Civil Aviation Authority licence. "However, we decided to cover the whole landscape of the industry as we saw a real need to bridge a gap."

One of the key initiatives is to visit schools to motivate youngsters.

The company now offers a bursary initiative, which is roped into its training partnerships. The enterprise recently put out an advert about its bursary opportunities and 20,000 people applied from all over South Africa – 60 were submitted.

It will also shortly be launching the initiative in Uganda – Nseko's homeland. ■

SMITHS FULFILS ITS EASTERN PROMISE

Smiths Detection has got airports in eastern Africa well covered with its high-tech equipment. The UK company is a specialist in detection screening technologies for airports, as well as the military, air transportation, homeland security, and emergency response sectors.

"We provide equipment to just about every airport in east Africa, including here in Kigali," explained Arnaud Bouquet, sales manager Africa.

One company technology used at Kigali International Airport is the heavy cargo and vehicle inspection gantry (HCVG) used on vehicles entering the airport

"This is an automatic scanner that moves along the vehicle during the inspection process, delivery X-ray images, including the wheels and fuel tank, to make sure there are no firearms, explosives, drugs or contraband," said Bouquet. "It is imperative that it is safe to enter the airport."

Bouquet added that, while this type of equipment is essential for many African airports, there is a lack of finance.

"Airports generate their own revenue with taxes, but they need more. So, we put a business case for financial help from the US and Europe," said Bouquet.

One of the company's latest technologies, already being used in much of the world, but which it "hoped" to launch in Africa is Hi-Scan 6040 CTiX – an advanced screening technology.

"This offers advanced screening of carry-on baggage using computed tomography (CT)," explained Bouquet.

"It delivers a very high level of explosives detection and can also scan baggage without removing electronic devices and liquids – expediting screening and making the whole process less stressful for passengers."

Bouquet said the company has a simple goal: "To provide security, peace of mind and freedom of movement upon which the world depends."



Looking for new markets: Lasse Schmidt Westren (left) and Mattias Forsberg.

Flight calculations in the bag

Dynamic Source was looking to follow up recent success in the region by attending Aviation Africa.

The company recently launched its electron flight bag (EFB) solution with Air Tanzania.

"The EFB applications allow pilots, dispatchers and flight operations engineers to generate performance calculations for take-off, dispatch landing and time of arrival landing," said Lasse Schmidt Westren, commercial director.

"Characterised by a user-friendly interface, the relevant data, such as aircraft weight, wind and runway conditions, is entered into the software tool and, in seconds, the take-off and landing data, like limiting weights and speeds, is presented to the pilot."

The software can be used for commercial, freight, and military aircraft, and while the Swedish company already has customers in Europe and

China, it recently added its footprint in Africa with its Air Tanzania agreement. The carrier is using the tool on its Airbus 220 and Bombardier CS300 aircraft type.

The company claims it is the only one in the world to supply performance software to these aircraft types.

"What makes our software different is that we are the only ones that can do this for the iPad based on the manufacturers module," said Schmidt Westren.

"Normally, if you have an iPad, you will have to buy the performance software from Airbus or Boeing, or any other manufacturer.

"However, our software allows you to take the performance file that you get when you buy an aircraft and run it on the iPad. We also run a 24/7 hotline in case of any problems."



Charles Rono: "We can turn flight data information around in 48 hours."

BLACK BOX REVEALS THE FDR SECRETS IN AFRICA

Black Box Flight Data Systems carries out flight data recorder (FDR) services for air operators worldwide.

The organisation was at Aviation Africa with a message for potential customers – flight data recorders can be sent for analysis to its hub at Wilson Airport in Nairobi, Kenya... there is no need to ship it off to Europe or the US.

"We offer a service that downloads information contained in the recorder. Data is then analysed and we publish it off to Europe or the US," said Charles Rono, flight data analyst.

"A black box was mainly used for accident and incident investigation but now it is a proactive tool," he said. "There has to be a flight recorder on all aircraft. Now,

annually, there is a download analysis and publication of the report that will show the performance of that particular aircraft while in flight.

"For example, if there is a problem with the engines, it will show how the pilots are treating the aircraft – are they making any sharp turns? That is where being proactive comes in; if there is an impending failure, it will be detected a lot earlier."

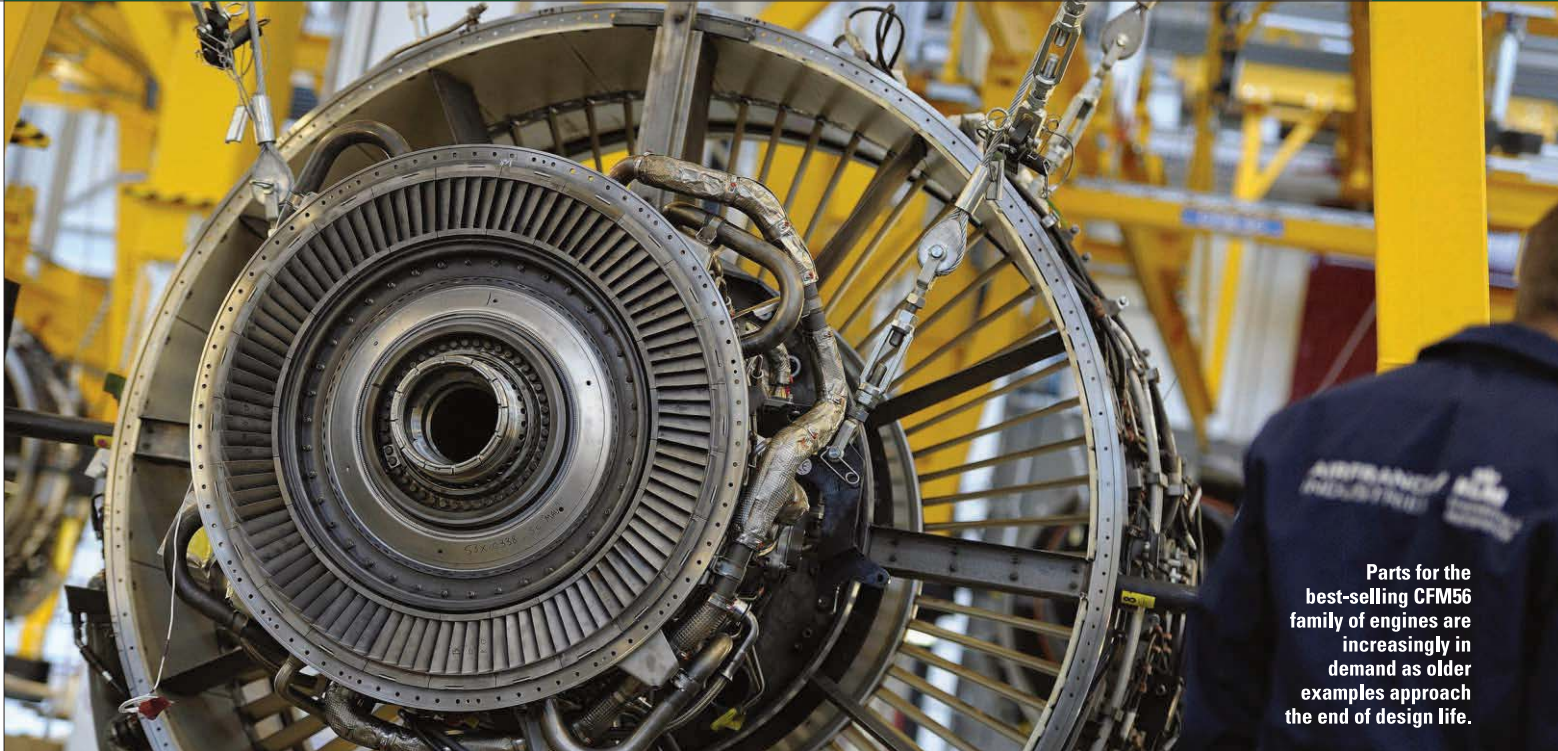
As an example, Rono recalled: "One customer had a problem with an engine so we called out for an inspection and discovered the turbine blades were a little bent. The customer was able to rescue the situation before it became dangerous and costly."

With maintenance approvals from Kenya and Rwanda, the company has

grown fast since its inception in 2015. It now has 33 customers in Kenya, as well as Passion Air based in Ghana, and a private company located in the Congo.

"The reason we are at Aviation Africa is to reach out to the big players in Africa to let them know they don't need to send their recorders to Europe or the US," said Rono. "We can turn flight data information around in 48 hours, as opposed to customers having to wait two weeks for reports back from other places."

"We sit down with clients and develop a programme about how their aircraft are performing, which also sets us apart," said Rono. "It's all about safety in aviation."



Parts for the best-selling CFM56 family of engines are increasingly in demand as older examples approach the end of design life.

It's time for spare parts to play more of a leading role

The aircraft parts market is at a crossroads as demand challenges suppliers to come up with solutions that satisfy the requirements of both airworthiness and economics.
Chuck Grieve reports.

Today's civil aircraft operators are faced with a proliferation of choices as they look for the optimum route for maintaining the airworthiness and value of their fleets.

Service providers hope the well-publicised agreement reached between the International Air Transport Association (IATA) and CFM International will persuade more original equipment manufacturers (OEMs) to loosen their grip on maintenance, repair and overhaul (MRO), giving more opportunities for parts manufacturer approval (PMA) spares suppliers.

Others see a strong market developing in used serviceable materials (USMs).

Meanwhile, on the horizon, is additive manufacturing (AM), which aviation industry specialists believe will fundamentally change the way engineers design aircraft and engines, OEMs make them, and MROs maintain them.

Older engines can present a particular challenge, explained Justin Blockley, commercial director of UK-based parts and services supplier Bii.

OEMs will be understandably reluctant to tool up for remanufacture of a limited number of parts – an expensive and time-consuming exercise.

For legacy parts, Blockley says it's more economical to buy serviceable materials from stockists or operators who have torn down an

airframe. On new generation aircraft, such as Airbus A320s, "the maths doesn't work" for a small player to tear down the airframe and recondition parts itself.

Blockley said Bii sometimes "struggles to find the material we want" in the market where it competes with other independent suppliers and airlines. Parts that wear out the fastest – engine accessories, valves, pumps, even items in the cockpit area such as inertial reference units (IRUs) – are in greatest demand.

It was a very busy summer – better than 2017 – in the spares market, he said, with the Middle East a particular bright spot for Bii. "We've been busy supporting Boeing 747-400s and 767s, for both airlines and leasing companies. The RJ-146 market has tailed off this year."

It would be a "very difficult industry in 2018" in which to set up a broad-based trading company to cover numerous platforms, he observed. "The days of one-man bands are gone. You have to be well-established and have a good supply chain in place. It comes down to relationships, service and, of course, price. It's very competitive."

He said more OEMs are recognising that they can't keep up with the demand for spares and are allowing more parts to be manufactured on their behalf under PMA. "Before it was a closed

Continued
on Page 79



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CONTINUED FROM PAGE 77

shop. Opening up to third-parties is good for us and our customers.”

OEMs are also opening up to trading; many have their own trading divisions. “It’s good for us as traders and stockists,” he said.

Liebherr-Aerospace recently started offering its systems and equipment in USM condition as an alternative to new. The service is centrally managed from its Dubai service centre.

The company says it refurbishes systems and equipment sourced from aircraft destined for teardown and releases these units with appropriate airworthiness certification.

Joël Cadaux, Liebherr-Aerospace customer services director marketing & sales, said customers with legacy and mature fleets look to alternative solutions to support their operations cost-effectively.

The use of USM parts “is widely accepted by our customers and represents a legitimate option”, said Cadaux. “Our initiative is aimed at satisfying customers’ demands in terms of performance as part of our drive to innovate with solutions that meet the market’s expectations.”

USM is also a growing part of MTU Maintenance’s business. “We are experiencing double-digit growth in this area each year,” said Patrick Holzkamp, head of purchasing engines



Rolls-Royce’s Trent 700 was the first variant of the Trent family and powers Airbus A330s.

and used parts. The unit uses and sells USM materials.

Air France Industries KLM Engineering & Maintenance (AFI KLM E&M) also employs used engine parts and rotatable components from mature fleets.

At Lufthansa Technik (LHT), Manuel Huensch, senior manager of corporate purchasing, said savings are “more than 50% overall, plus a quality improvement if the parts are overhauled in our shops.”

LHT says it prefers used material over new material if the part is overhauled in the MRO’s shops, or within its network. “This ensures the

quality our customer expects and reduces costs,” Huensch said.

Candidates for USM sourcing are older and retiring aircraft and engines, typically 12 years old or older.

However, the days could be numbered for USM parts: their importance in the supply chain could be hit by AM, which is expected to have a major impact on part stocking, distribution, repair and asset management.

As the ability to produce replacement parts almost on demand grows, the need to periodically manufacture and stock spares in large volumes is expected to diminish. ■

ADDITIVE MANUFACTURING COULD BE ADDICTIVE

The potential applications in MRO are among the many attractive features of additive manufacturing (AM). This disruptive technology, also known as 3D printing, holds promise as – among other uses – a cost-effective way to reproduce legacy spares, reduce inventory, manufacture parts on the spot, and make tools and new designs in limited numbers.

While primes, including Rolls-Royce, Airbus, Boeing and BAE Systems, are using AM to manufacture parts for engines and airframes, others are finding interesting applications in cabin interiors, where modification and customisation contribute to brand differentiation.

In the Middle East, Etihad Airways Engineering (EYEng) began exploring the use of AM in 2015 and was the first MRO to gain European Aviation Safety Agency (EASA) approvals to design and certify AM cabin parts in the high-performance thermoplastic Ultem 9085.



The Abu Dhabi MRO collaborates in research and development with a number of organisations and is an active member of the committee defining AM standards for aviation.

Its technical and commercial partnerships with world-leaders in cabin interior parts, suppliers of large-scale AM printers and cutting-edge AM technology, complement its own research into new processes and new materials for aviation. The company also has partners in the UAE with strong investment and skills in 3D printing techniques.

“This supports our vision to have a significant percentage of cabin interior parts manufactured using AM printing techniques within 10 years,” said EYEng’s Bernhard Randerath, vice-president - design, engineering and innovation.



EYEng’s Bernhard Randerath with the first certified AM aircraft part made in the UAE.

“Additive manufacturing enables us to enhance our cabin modification by quickly designing and producing customised parts,” he added.

“The ability to make parts on demand reduces inventory and cuts cost, while allowing us to optimise parts for weight reduction and appearance.

“The ability to make custom tools and jigs is an additional benefit.

“We have no doubt that AM will make a huge impact for airlines and MROs,” said Randerath, adding that “some challenges” need to be addressed to achieve this, including the limited selection of material currently available.

In Germany, Lufthansa Technik (LHT) has set up an AM centre in Hamburg to expand the MRO’s competence and experience in the new technology.

Dr Anne Koester, head of the centre, said it will serve as “a collaborative hub... to increase the degree of maturity of the technologies and to develop products that are suitable for production”.

A key focus of the LHT research is the development of AM repair processes. This poses “quite a challenge” as industry standards in the process of development and the goals of the parties involved – OEMs and MROs – “differ substantially”.

LHT and Swiss engineering group, Oerlikon, are midway through a one-year agreement to develop “robust and repeatable processes” for AM in MRO. The partners are using three AM printers in three locations to achieve a better understanding of the parameters influencing the performance of a part manufactured using this technology. ■

DASSAULT ACQUIRES EXECUJET OPS

Dassault Aviation snapped-up ExecuJet's MRO network in January, which will further strengthen its development in Africa, writes *Marcelle Nethersole*.

The French company acquired the facilities from business aviation services provider Luxaviation, which bought ExecuJet in 2015 – its largest ever purchase.

"Selling our maintenance activities to a European group, whose excellence is recognised around the world and demonstrated by a multitude of excellence awards, allows Luxaviation to refocus on our core aviation services, to further concentrate on innovation, and to invest worldwide into the sector's development," said Luxaviation chief executive Patrick Hansen.



The acquisition, which is scheduled for completion by the end of the first quarter of 2019, adds to Dassault's global support footprint with the addition of 15 bases across the world, including in Africa, as well as the Middle East, Asia-Pacific, and Oceania.

Dassault said the purchase was prompted by customer demand for more direct involvement in the maintenance and support of its Falcon jets.

"With ExecuJet, we will continue the development of our high-quality customer support network, while growing our Falcon market share," said Eric Trappier, chairman and CEO of Dassault Aviation.

"Dassault always had its own comprehensive MRO



Growing capacity: Dassault's new service centres will develop their capacity to benefit the growing number of Falcon operators in Africa.



network in Europe, South America and North America dedicated to the Falcon aircraft, so this adds perfectly to it."

Jean Kayanakis, senior VP of the new worldwide Falcon Customer Service & Service Center Network, added: "We wanted a more direct involvement in the worldwide MRO business to improve the Falcon customer experience. ExecuJet has earned a strong reputation for providing high-quality services to business aviation operators for more than 30 years and

was the perfect addition to our Falcon global customer service network.

"ExecuJet has a strategic position for business aviation in Africa with three locations in South Africa and Nigeria," said Kayanakis.

"While keeping its multi-OEM businesses, these service centres will develop further their Falcon capacity to benefit the growing number of operators in Africa. ExecuJet will be a key asset to our future developments in the region." ■

RUSSIAN MRO BOOST FOR EGYPTIAN AIR FORCE

The Rostec State Corporation company, Russian Helicopters, is to open a maintenance, repair and overhaul (MRO) centre for the Egyptian Air Force's Mi-8T and Mi-17-1V helicopters.

The facility will be based at the Helwan Factory for Developed Industries (HFDI) plant just south of Cairo.

The necessary equipment was installed between 2015 and 2018, while key personnel underwent training at Russian Helicopters' Novosibirsk Aircraft Repair Plant.

"Over the past three years, in cooperation with our partners from HFDI, we have performed a tremendous job establishing the MRO centre for Russian-made rotorcraft at the factory's facilities," said Igor Chechikov, Russian Helicopters' deputy director general for after-sales support.

Working with the Mil Moscow Helicopter Plant, the new MRO centre has already achieved 'readiness' status and has performed initial 'pilot' overhauls of an Mi-8T and an Mi-17-1V, with the aim of achieving certification later this year.

Mi-8s and Mi-17s are in service in large numbers in Egypt, providing a useful market for the new MRO. The type is also in service in Iraq and with other MENA air arms.

In future, the MRO may extend its services to the newer Mi-17V-5 variant.



Useful MRO market: Mi-8s are in service in large numbers in Egypt.

"Egypt is a long-standing and strategically important partner for Rostec," said Viktor Klodov, the company's director for international cooperation and regional policy. "We cooperate in a wide range of areas.

"The helicopter industry and after-sales service of equipment are the key areas for our cooperation. Certification of the helicopter service centre in Egypt opens up new opportunities for expanding cooperation with local partners." ■

Mi-8/17 helicopters, which are claimed by Rostec to be reliable and low-maintenance, remain in constant demand. They are capable of medevac and humanitarian missions, cargo and passenger transportation (including VIPs).

Military-transport Mi-8/17 helicopters are designed to transport service personnel and to carry cargo inside the cabin and on the external sling. These rotorcraft are employed for patrol or search-and-rescue operations and can also carry armament. ■

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*Airbus has a vested interest in helping MROs and airlines manage their aircraft. Guillaume Mille explained the European airframer's approach and goals to **Chuck Grieve**.*



Airbus is working with the US data analysis specialist, Palantir, to develop Skywise, its data collection and analysis tool. A number of customers, including Emirates, now use it.

As part of the programme's development, artificial intelligence (AI) is being harnessed to analyse data for trends and opportunities for improvement. Mille describes the AI as self-learning routines: "The more they work, the cleverer they become, the faster we can progress."

Equally important is Airbus' work with airline customers and MROs to improve efficiency in the shop. Digitalisation helps to better organise tasks, manpower and spares planning for major tasks.

Mille said: "We've been surprised to find, through exchanges with customers, that MROs trying to predict spare parts utilisation for a scheduled maintenance check achieve accuracy levels as low as 25% when the planning is done by humans who work with statistical data."

Digitalisation to improve that prediction level "is a key development for us" he added.

Airbus is also launching a new concept, the 'hangar of the future', to test tools in the working environment and develop new ones. For example, work is under way with Airbus subsidiary, Testia, to develop better non-destructive testing (NDT), such as a new way of assessing skin thickness around areas where dents have been repaired.

Connected world keeps repair times in check

Time on the ground is costly, which is why Airbus places such emphasis on finding ways to improve the efficiency of MRO on its aircraft.

Essential to that drive is good analysis of performance, constant improvement in airframe maintenance and components repairs, and closing the loop through feedback – and Airbus has all three covered.

Guillaume Mille, head of Airbus Services sales for the Middle East and Africa, said research has found that a 0.1% drop in operational reliability equates to a \$1 million cost to an airline operating 50 A320 family aircraft.

Minimising time spent in heavy checks is something Airbus focuses on, he said.



New technology, processes and materials used in manufacturing result in airframes that need less maintenance. This has an impact on increasing the intervals between checks, but engineers who service the aircraft also have a crucial role in determining any changes to the safe parameters of performance.

"We collect data from our partners that we analyse to highlight trends and evaluate the health of our aircraft and take these reports back to the authorities," said Mille. "This helps us demonstrate opportunities to spread out mandatory maintenance tasks. This is how we achieve extension of intervals between main maintenance checks."

"Traditionally, this process has been manual. The idea is to switch this on to more powerful tools using digitalisation.

"This is where the future lies: MROs have to move to a more connected world."



Guillaume Mille:
"MROs have to move to a more connected world."



"The traditional mechanical method is a time-consuming manual job," said Mille. "Our new thickness tool is like a wheel that takes thickness measurements as it rolls over the skin, greatly reducing the time required for such a task during C-checks without compromising on safety."

Other early-stage developments, such as the use of automated cameras to inspect aircraft, benefit from "very promising benchmarking" against work in other industries, such as automotive.

Airbus set up the Airbus MRO Alliance (AMA), a grouping with six MROs – two each in the US and Asia, one in Europe and one in the Middle East – to cooperate on providing services to customers, and exchanging ideas and knowledge to develop best practices.

MRO tends to be a very regional market, said Mille, although some long-range aircraft may travel further afield for mandatory checks. "We've seen some aircraft from South America coming to Etihad Engineering, for example."

He said it's important to Airbus that there's enough capacity to service its customers. Manpower is a challenge. "We're trying to launch programmes with partners, whether governments, airlines or education institutions, which will provide some sponsorship for students to get more people into the market." This initiative will benefit Africa, which relies heavily on technicians trained outside the region.

Mille said Airbus has the same focus as airlines on the successful operation of its aircraft. "We have the same interest as our customers in keeping that aircraft flying," he said. "Our customers, in flying their aircraft, are flying our brand as well." ■

How space can help Africa reap its rewards

Space technology can be used to pinpoint areas where lack of nutrients in the soil is hampering the growth of crops.

PICTURE: BIRDSIMAGESTOCK.COM



Making greater use of space – or at least Earth orbiting satellites – could greatly help African farmers and the wider population, the Airbus Aerospace In Africa forum heard.

Alan Dron was there.

Africa has the potential to feed the world. But low productivity has been a major characteristic; we get around one-quarter of what is possible elsewhere.

That was the sobering comment from Dr Jonas Chianu, chief agricultural economist at the African Development Bank, as he opened the Aerospace in Africa session on space and how it could benefit the continent.

A lack of science and good practices meant that African farmers typically produced much less than their equivalents in Asia, Latin America and the developed world, he said. How could the food output of Africa be improved?

In recent years, an increasing number of African countries have made ambitious ventures into outer space. In January 2016, as part of the African Union's (AU) heads-of-state summit, the organisation adopted the African space policy and strategy, which outlines the continent's ambition to develop and exploit its space resources, with the main objective of contributing to Africa's socio-economic development.

A panel of speakers looked at how space technology could provide answers to Africa's most pressing problems, such as food security, transportation and healthcare.

A specialist AU technical committee has drafted documents on space policy, strategy and status of the continent's 'space identity'. However, said Abroulaye Fofana, permanent secretary, State Action at Sea from Cote d'Ivoire, he had not seen this being implemented on the ground. "Greater awareness of how to use technology to improve our world is necessary," he added.

Space technology (and new-generation unmanned aerial vehicles) can be used to pinpoint areas where lack of nutrients in the soil is hampering the growth of crops, said Chianu. This would allow ground-based specialists to provide the necessary fertilisers or other chemicals to local farmers. Crop yields were already routinely monitored by such means.

Satellite-mounted sensors also allow countries to work with the minerals industry to conduct geological surveys and map entire countries for mineral deposits.

The value of these 'geo-intelligence services' in Africa,

across all sectors, was reckoned to be about to triple from a 2012 figure of \$40 million to \$150 million by 2020.

More immediately, different space-based sensors can be used to help monitor natural disasters or to tackle insurgencies in African nations; the accuracy and definition of sensors can be used to track insurgents, with that data being transmitted to government forces, allowing them to intercept rebels.

Several speakers said there were hurdles to overcome before African nations could really start to use satellites to their benefit. "There are so many barriers," said Dr Kasirim Nwuke, chief, new technologies and innovation, with the United Nations Economic Commission for Africa. "Intellectual property is a great constraint. And you can't use the Chinese model of imposing a strategy on private industry."



However, Fofana disagreed: "I really don't think there's a barrier to developing space technology in our countries. I'm from the maritime sector; we're already using a lot of services from the satellite sector for the identification of ships and surveillance. A lot of sectors are using satellites today in agriculture and forestry. It's one of the most cost-effective technologies to address some of our challenges."

Morocco, for example, which is the world's 13th largest producer of fish (and the biggest in Africa) has for some years used satellite imagery to tackle illegal or unregulated fishing. From 2013-15, due largely to the deterrent effect of this satellite surveillance, the number of fishing offences decreased from 641 to 404.

This enhanced protection contributed to new interest from local and foreign investors in Morocco's fishing sector.

James Hinds, director of strategy development, space systems with Airbus, agreed with Fofana that the greater use of space technology was within the grasp of African nations: "The cost of launch and of spacecraft has come tumbling down; the cost of how we use that data has come down. We just have to do it." ■

Building up an aerospace manufacturing sector in Africa would be a significant creator of employment in the continent, says Airbus' aviation White Paper. Alan Dron reports.

Companies, such as composites specialist Strata, have shown that it is possible to build up aerospace manufacturing clusters away from traditional OEM locations – in this case around Al Ain, in Abu Dhabi.



Clusters can make the difference...

Aerospace industry jobs could be a major driver of economic activity in those nations that can build up a cluster of companies serving the sector.

There are currently three African nations with significant aerospace manufacturing clusters – South Africa, where the industry contributed \$1.8 billion to the national economy in 2017; Morocco (\$1.1 billion) and Tunisia (\$430 million).

The three countries are in the top 45 largest aerospace manufacturing nations globally, as measured by the value of components they produce – largely for export.

The two north African nations have been able to make use of their proximity to Europe to set up aerospace companies, while South Africa has long had a substantial aircraft manufacturing capability.

Not only does aerospace create high-skilled jobs itself, it has a multiplier effect as other companies grow up to support it. In South Africa, for example, it has around 15,000 highly skilled engineers, but also supports 60,000 other skilled jobs in supply chain companies.

Morocco's push for international investment in its aerospace sector may serve as a template for emerging nations seeking to develop such an industry, Airbus said in its White Paper on the current state of the industry on the African continent.

The north African nation has seen remarkable progress in developing aerospace as a manufacturing sector, with

revenue growth having risen by an average 17% a year over the past decade.

There are several prerequisites for a country that aims to build up an 'aerospace eco-system' of complementary companies. These include solid national infrastructure, people with the right skills, and access to the necessary financing to allow it to grow.

Infrastructure covers the basics of an industrial society – a reliable power supply, plus transport facilities, such as ports, and a good road system along which components can be moved. 'Free zones', where companies can grow with relief from taxes, can also be important.

Tunisia, for example, plans to boost all of these with the creation of the Tunisia Aeronautic Valley, which will act as a hub for new aerospace-related companies wanting to set up in the country.

Building up a base of suitably skilled personnel can also be a challenge. Morocco is seeking to meet this through its Aviation Professionals Institute, which provides vocational training to people in the sector and which aims to train around 800 people annually. The institute is a good example of government and private sector coming together.



As for access to the necessary finance – particularly from the private sector – Airbus said that financiers regarded Africa as being a riskier environment, with poorer returns on investment, than other regions. While none were suggesting they should quit Africa, some felt that discussions of creating aerospace industries in countries where the infrastructure had not yet been fully established was somewhat premature.

If the infrastructure problems could be fixed, two other factors had to be in place before significant financing would materialise – the ability to secure a sovereign guarantee on financing and the existence of a profitable business plan.

If those factors could be put in place, the potential was huge, African aviation players attending the launch of the White Paper said.

The entry barriers to the aerospace industry were huge, as were the number of external safety and quality regulations with which companies had to contend, admitted Johan Steyn, managing director of South African aeronautical manufacturing and engineering company Aerosud. But, if they could overcome these hurdles, the prize was great.

"In the next 20 years more than 34,000 large aircraft will enter the market. We see that as a market of infinite possibilities in which to participate," he added.

Abdelbasset Ghanmi, director of advanced technology promotion of Tunisia's Foreign Investment Promotion Agency, agreed. Building an aviation manufacturing eco-system was not impossible; Tunisia's aviation sector now comprised 80 companies employing more than 17,000 people: "We have to believe in our capabilities."

The increasing number of 'incubators' and other programmes supporting entrepreneurship in Africa is likely to be a driving force in the future development of its aerospace industry, the conference heard. ■

Kenyan all-freight operator, Astral Aviation, is to add two Boeing 767-200Fs this year – marking its first examples of the type – and is separately evaluating Airbus A321 and 737-800 freighters as it seeks to address capacity gaps in its fleet. **Victoria Moores** reports.

Astral plane plugs the capacity gap

Astral Aviation currently operates two 747-400Fs, one 727, two McDonnell Douglas DC-9s and a Fokker F27.

“We’re really proud of our aircraft. They serve us well,” said the company’s founder and CEO, Sanjeev Gadhia.

However, Gadhia is looking to address the capacity jump between Astral’s 747s and 727s, by adding a pair of 767-200 freighters. Both have already been converted. The initial 767 was scheduled for delivery as *African Aerospace* was going to press, followed by the second towards the end of 2019.

Integrators are taking a lot of 767 freighters from the market, but Gadhia said there is less demand for the older variants, so Astral is still seeing a good supply.



The 767s will be used to operate a scheduled service from Nairobi to Dubai, stopping at various African points – including Lagos (Nigeria), Kinshasa (Democratic Republic of the Congo) and Johannesburg (South Africa) – on the return flight to Astral’s Nairobi hub. “There is a bit of a shortage of main-deck capacity between the United Arab Emirates (UAE) and Africa,” Gadhia explained.

Beyond the 767s, Gadhia is also looking at some further fleet additions. “We expect that, by 2020, we will go for either the A321 freighter, or the 737-800 freighter. We have already got a proposal on paper for the A321 freighter and it looks amazing.”

Despite looking very positive, Astral wants to wait until



Sanjeev Gadhia: “We expect that, by 2020, we will go for either the A321 freighter, or the 737-800 freighter.”

the specifications are tried and tested before taking a decision. “The manufacturers are very good at giving estimates, but the reality can be very different.”

Meanwhile, Astral’s two 747s – one nose-loading, one side-loading – are operating a busy schedule, including twice-weekly flights from Nairobi to Doncaster Sheffield (UK) and twice-weekly to Liege (Belgium). “Both 747s are operating flat out, especially during the Christmas and Valentine’s peaks,” Gadhia said.

Much of this 747 capacity is to the UK. Gadhia believes these operations will be unaffected by the UK’s plans to leave the European Union (Brexit). “We are currently not worried about Brexit. Kenya and Britain have traffic rights, so we expect no issue. All in all, everything is looking very positive.”



Astral is also striding ahead with its cargo-drone plans. The Kenyan freight specialist has plans to take at least five FlyOx drones from Spanish company Singular Aircraft in 2019-20. The programme is well under way and a series of tests have just been completed in Norway.

Timings for the launch will depend on when Astral secures type approval from the Kenyan Civil Aviation Authority. “We will be the first airline in the world to commence flying cargo by drone,” Gadhia said.

The drones will initially be used for humanitarian work, later extending into commercial freight.

Astral is also taking up to 12 250kg-payload Lucas-F250 drones from Dubai-based Falcon Drones Technology. The initial delivery was planned as *African Aerospace* was going to press. These will be used for agricultural freight, carrying produce from remote farms to the city.

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ASTRAL AVIATION ÉTOFFE SA CAPACITÉ DE FRET

Astral Aviation opère aujourd’hui deux B747-400F, un B727, deux McDonnell Douglas DC-9 et un Fokker F27.

Son PDG, Sanjeev Gadhia, cherche à augmenter sa capacité de fret en s’appuyant sur deux B767-200 Cargo. La livraison du premier avion devait avoir lieu au moment où le magazine allait sous presse. Le second est prévu pour fin 2019. Ces avions opéreront un service entre Nairobi et Dubaï, en passant par plusieurs villes d’Afrique.

Sanjeev Gadhia pense déjà à l’après B767. D’ici à 2020, il envisage d’acquérir la version cargo de l’A321 ou du B737-800.

Une grande partie de la capacité des B747

est dédiée au Royaume-Uni. Selon Sanjeev Gadhia, ces opérations ne seront pas impactées par le Brexit.

Astral Aviation travaille également sur des projets de cargo via des drones et va commander au moins cinq FlyOx de Singular Aircraft en 2019/2020. Une série de tests vient d’être achevée en Norvège.

Le lancement des opérations se fera une fois que la compagnie aura l’autorisation de l’aviation civile Kenyane. Astral Aviation sera la première compagnie au monde à opérer du fret via des drones. Ils seront initialement dédiés aux missions humanitaires avant d’être utilisés pour le fret commercial.

Tefera Mekonnen, the new secretary general of the African Civil Aviation Commission (AFCAC), officially took up office on January 7. He shares his vision with Kaleyesus Bekele.

MEKONNEN'S LAW

AFCAC, created by the International Civil Aviation Organization (ICAO) and the then Organization of African Unity (OAU) in 1964 in Addis Ababa, Ethiopia, was set up to help foster a safe, secure, efficient, cost-effective, sustainable and environmentally friendly civil aviation industry in Africa.

Headquartered in Dakar, Senegal, it is now the African Union (AU) specialised agency for civil aviation. The AU has also delegated AFCAC as the executive agency of the single African air transport market (SAATM).

Tefera Mekonnen aims to ensure transparency and governance in the commission. "One of my focus areas will be ensuring the rule of law and inclusiveness among the staff and with our partners," he said.

Mekonnen is developing a three-year strategic plan and work programme to be submitted to the bureau of AFCAC. The establishment of effective partnerships will be a key area.

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"There are a lot of technical assistance partnerships and interventions in Africa engaged in assisting states but they are not harmonised. There is duplication of effort. There is confusion among member states when two or three partners approach them for the same effort. At the same time, this duplication creates wastage of resource. There needs to be resource optimisation," explained Mekonnen.

"To have an effective partnership, I started working with our parent organization, the AU."

Mekonnen recently met Moussa Faki Mahamat, chairperson of the AU, and discussed the challenges of member states in ensuring safety and security and how to foster civil aviation in the continent.

They also discussed the existence of various stakeholders and duplication of efforts. "We discussed how to make AFCAC effective. I appealed to him to assist us in a harmonisation effort done by the AU secretariat and AFCAC.

"AFCAC has a constitutional mandate of the member states to be the specialised agency of aviation matters. We agreed that all civil aviation matters should be coordinated by AFCAC and

that we should be the lead organisation."

One of the major challenges facing the African aviation industry is the effective implementation of safety and security standards. "For the air transport industry to thrive, the issue of safety has to be addressed," Mekonnen said. "There is a need to comply with international safety standards.

"At present, we have not had fatal accidents for the last two years. However, our effective implementation of international standards is way below the global average.

"There are some member states who are above the global average but, when we look at most of the states who were party to the solemn commitment of SAATM, they are below the average. Therefore, there is a need to assist them in establishing sustainable safety measures."

According to Mekonnen, AFCAC will be aggressively working on an assistance programme on safety. "By 2021, we are planning to have an assistance mission, which will provide technical support on safety to member states," he asserted.

The effective implementation of security is the other focus area. Mekonnen was happy to note that there has been no major unlawful interferences in the last two years. However, he said it was crucial for Africa to effectively implement global security measures.

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"In some parts of the continent we have extremist groups like Al Shabab and Boko Haram that affect our aviation industry. We have a lot to do in ensuring security.

"We need to be cognizant to that. And our states need to benefit from the development of risk assessment and mitigation measures and also to comply with international standards."

The other major task that could keep Mekonnen awake at nights is the implementation of SAATM. Launched by the AU in January 2018, it aims at liberalising African skies by eliminating restrictive bilateral air service agreements.

In 2015, 11 champion states expressed full commitment to implement the 1999 Yamoussoukro Decision, which aimed to

liberalise African skies. The number reached 23 when SAATM was launched during the African heads-of-state and government summit in Addis Ababa, Ethiopia. Five more states have joined the initiative since then and, at the moment, three states are in the process of joining.

Mekonnen noted that, out of the 28 signatories, 16 states have removed all market restrictions from air service agreements. He said nine states were holding discussions to remove restrictive bilateral provisions. "This is the first of its kind and it is a great achievement," he said.

However, out of the 54 AU member states, only 28 joined SAATM. And those who have signed are not fully implementing its provisions.

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According to Mekonnen, some member states are reluctant to join SAATM due to a lack of awareness of the benefits of air transport market liberalisation. "Some fear that they would lose their national carriers if they liberalise their markets. But a number of African states have already opened their skies to non-African carriers while they are denying traffic rights to African airlines," Mekonnen said.

"Some African airlines advise their states not to sign SAATM because they fear that they would lose their market share," he added.

AFCAC is now working on an awareness programme on the socio economic benefits of SAATM. "We have published documents on competition rules, dispute settlement and institutional frameworks and we are planning to organise sensitisation workshops in each regional economic community."

According to Mekonnen, the commission has secured funds from the African Development Bank (AfDB) and the European Union that would enable it to operationalise its activity.

The AfDB has earmarked \$4.7 million to support AFCAC's effort to implement SAATM. The European Union has also allocated a million Euros (\$1.15m) to support AFCAC's initiative.

AFCAC is in the process of commissioning a study on the socio economic benefits of SAATM. "The awareness creation programme will enable us to attract more states," concluded Mekonnen. ■

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DES PROJETS D'ENVERGURE POUR LA CAFAC

Le nouveau secrétaire général de la CAFAC, Tefera Mekonnen, a officiellement pris ses fonctions à Dakar, au Sénégal en janvier 2019. Il a partagé sa vision avec Kalesyesus Bekele.

La Commission de l'aviation civile africaine (CAFAC) a été créée par l'Organisation de l'aviation civile internationale (OACI) et l'Organisation de l'unité africaine maintenant l'Union africaine (UA), en 1964 à Addis-Abeba. Elle a pour mission d'encourager et de veiller à l'application des normes recommandées par l'OACI en matière de sûreté et de sécurité et la protection de l'environnement opérationnel du secteur de l'aviation en Afrique.

Tefera Mekonnen met l'accent sur l'importance de la transparence, la bonne gouvernance et un partenariat efficace. Il travaille sur un plan stratégique triennal et une feuille de route qui seront bientôt soumis au bureau de la CAFAC.

Il a récemment rencontré le président de l'UA, Moussa Faki Mahamat, pour évoquer les défis que les États membres doivent relever afin d'assurer la sécurité et la sûreté et par extension la prospérité de cette industrie en Afrique. La duplication des efforts et la nécessité d'harmoniser les actions concernant le secteur aéronautique et l'aviation civile étaient également à l'agenda.

Il a souligné l'impact des groupes extrémistes sur la sécurité aérienne dans certaines régions du continent.

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La CAFAC travaillera sur un programme d'assistance en matière de sécurité. D'ici 2021, elle fournira un soutien technique en matière de sécurité aux États membres.

L'UA a également délégué la CAFAC pour coordonner et assurer la mise en place du marché unique du transport aérien africain (SAATM) lancé en janvier 2018.

A noter que sur les 28 signataires, 16 ont supprimé toutes les restrictions alors que neuf ont engagé des discussions pour éliminer les dispositions bilatérales restrictives.

Cependant, sur les 54 États membres de l'UA, seuls 28 ont rejoint le SAATM. Tefera Mekonnen souligne aussi que les signataires ne mettent pas pleinement en œuvre ses dispositions.

Il ajoute que certains États membres hésitent à adhérer au SAATM car ils craignent de perdre leur compagnie nationale ou leur part de marché. Il ajoute que certains États africains ont ouvert leur ciel aux transporteurs non africains alors qu'ils refusent les droits de trafic aux compagnies aériennes africaines.

La CAFAC élabore actuellement un programme de sensibilisation montrant les avantages socio-économiques du SAATM. ■

“ One of my focus areas will be ensuring the rule of law and inclusiveness among the staff and with our partners. ”

TEFERA MEKONNEN

all in a day

PEOPLE / PERSONNES

Dawit Lemma

Marcelle Nethersole speaks to the managing director and founder of Krimson.



1

■ Can you tell me a little about Krimson?

Krimson is an innovative and integrated aviation trip planning, flight support and aviation consulting firm based in Ethiopia. We are committed to delivering customised solutions to companies, organisations and individuals by adding value through technical knowledge and counsel, Swiss attention to detail, and local knowledge of east Africa and beyond.

Krimson aims to provide customers with the highest levels of professional services from a team that has an extensive network, originating from five different countries, speaking three different languages, across three continents.

We work with business and general aviation, government, and commercial customers.

2

■ What made you set up Krimson?

I was educated in North America and worked in Switzerland before being offered a role as a pilot at Ethiopian Airlines. They wanted me to join the company but I had to be either crew, or maintenance, or management. Having worked in all three roles in my career, I wanted to do all of them and believed I had the skills necessary to create a company that could offer Swiss excellence to the African market.

When I started Krimson, the African Business Aviation Association (AfBAA) was one year old and Africa was still establishing its presence on the international scene as a serious aviation market. I knew that global companies would want to work with local experts who understood the international standards.

3

■ What are the challenges for business aviation in Africa?

Africa is a complex continent united and divided by many different philosophies, politics, languages and religions. Continuity is minimal across operating standards and it has been a challenge to handle all this.

However, through the constant education, both internally and externally, of best in practice methods I believe that Africa can become as operationally efficient as other markets in aviation terms.

That's one of Krimson's goals – to apprise and inform colleagues about the opportunities that exist.

Recruitment is always a challenge, too, finding the right people with the right skills who want to stay in Africa. Again, we are working on establishing sophisticated training packages in association with our AfBAA colleagues and other industry partners to address some of these issues.

The international perception of Africa is also a challenge. Many who have never visited do not understand the economic progress that has been made in the last decade and I often have to sell twice, once the concept that Africa is open for aviation business, and then my business services.

4

■ How do you get access to difficult places in Africa?

Relationship and trust. Like many other business and investment sectors in Africa, having a relationship with vendor/supplier is of paramount importance, and even more important is developing a mutually trusting relationship. Crucially, knowing the individual(s) who are executing the requested service is imperative, as these are the people who not only assure the service, but also the ones you can count on to go the "extra mile" for you when required. We have worked from day one on developing relationships on the continent.

5

■ How do you see the future of business aviation in Africa?

I see great progress has been made in the last five years in terms of awareness of business aviation. A decade ago we were the dumping ground for all the world's used business aircraft. Now we are some of the major buyers of the latest aircraft models.

With this brings the need for infrastructure and I'd like to see more investment made at government levels in this area.

6

■ What does a typical day involve for you?

We are constantly on the move and my day may include supporting business aviation flights for our clients. On highly sensitive flights I can often be found side-by-side with my ops supervisor at uncommon hours and full of caffeine coordinating the arrival or departure of an aircraft.

During the day I will be developing growth strategies, establishing new processes and improving existing ones, liaising with the Ethiopian airlines and the Ethiopian Civil Aviation Authority.

I also travel extensively to meet new and existing clients and to attend conferences. These are essential for understanding the dynamic international aviation environment, plus a great way to catch up with partners and colleagues.



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