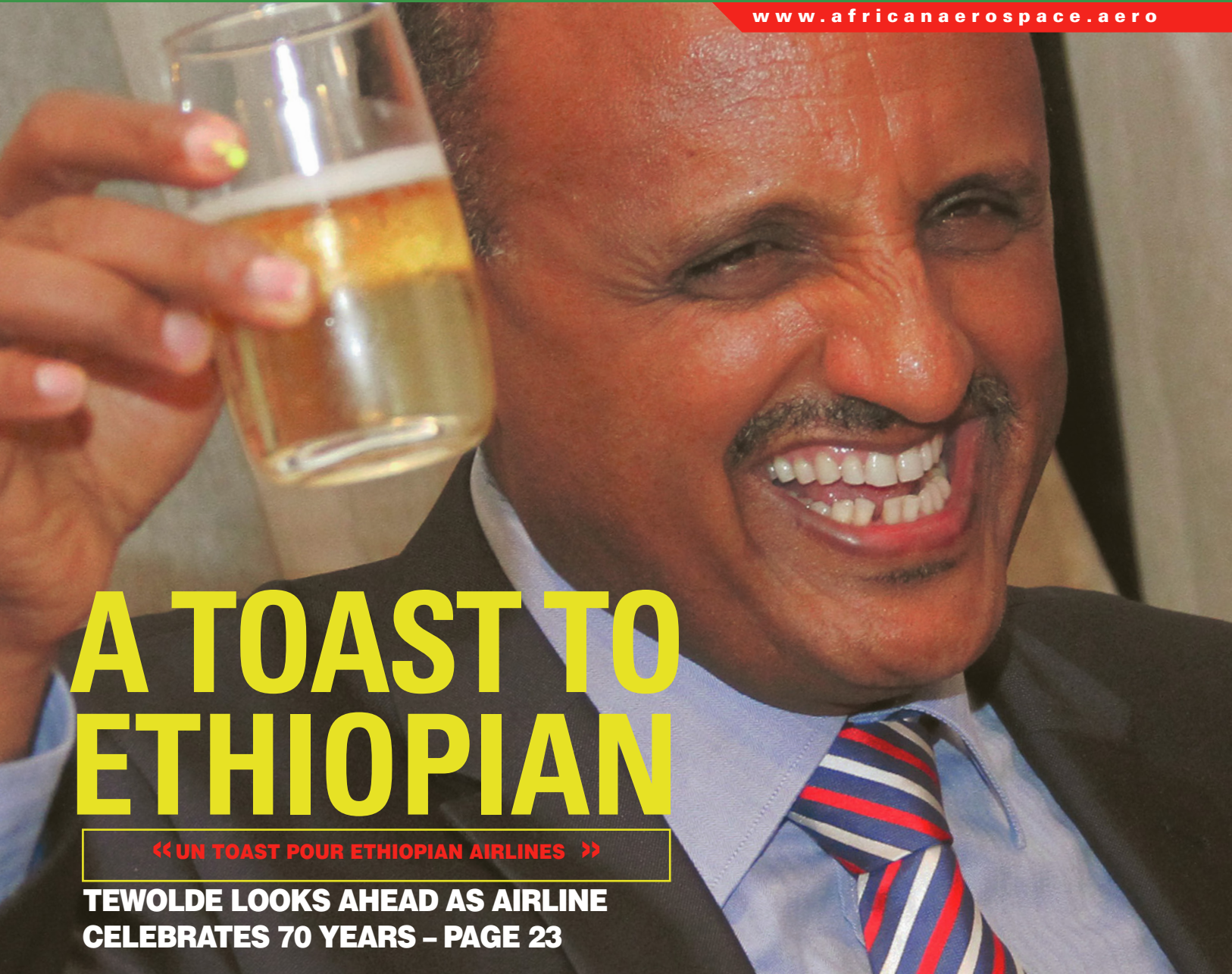




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A TOAST TO ETHIOPIAN

« UN TOAST POUR ETHIOPIAN AIRLINES »

**TEWOLDE LOOKS AHEAD AS AIRLINE
CELEBRATES 70 YEARS – PAGE 23**

FOCUS ON ZAMBIA

Aviation's
key role in
country's
growth

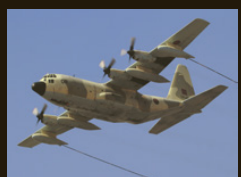
PAGE 91



DEFENCE

How the
RMAF is
modernising
its force

PAGE 66



BUSINESS AVIATION

Getting
the NAC
of sales
in Africa

PAGE 82



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Why an improving Africa still needs to put safety first

The International Air Transport Association (IATA) safety report for the global commercial air transport industry brought some comforting news to Africa.

The continent recorded marked improvements in its safety records and led a league table in performance improvements as its jet aircraft accident rate – measured in hull losses per million flights – fell from a five-year rate of 3.69 to 3.49.

Meanwhile, its accident rate for turboprops fell to 4.53 accidents per million flights compared to a five-year rate of 18.20.

These improvements are part of the sub-Saharan push across most of the continent to improve the safety record and embrace IOSA – IATA’s operational safety audit.

But there is still a long way to go.

The 2015 global jet accident rate was 0.32, which was the equivalent of one major accident for every 3.1 million flights – more than 10 times better than the African result.

The world turboprop hull loss rate improved to 1.29 hull losses per million flights, compared to 3.95 in the five years 2010-2014.

According to IATA, sub-Saharan airlines had four commercial hull loss accidents in 2015, two involving jets and two involving turboprops. One of the turboprop accidents resulted in passenger fatalities.



IATA’s director general and CEO, Tony Tyler, applauded the changes saying: “African safety is moving in the right direction. Nevertheless, challenges to bringing Africa in line with global performance remain.”

So far, only 32 sub Saharan airlines are on the IOSA registry. Many smaller airlines have remained doubtful about the need or the cost benefit. But

small airlines ARE members of IATA and the success with IOSA has brought improved safety results. The latest results show these carriers are performing at 3.5 times better than the non-IOSA airlines

Tyler has called on governments in the region to accelerate implementation of the International Civil Aviation Organization (ICAO) safety-related standards and recommended practices (SARPS). At the end of January 2016, only 21 African states had accomplished at least 60% of implementation of the SARPS.

Safety is essential for the trust of passengers and essential if African carriers are to compete against those from other regions.

The opportunities exist for African carriers to take advantage of the growing potential of passenger transport – but that will not happen unless the industry looks at its priorities and addresses safety first.

Alan Peaford,
Editor-in-chief

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COVER: Ethiopian’s CEO Tewolde Gebremariam in celebratory mood. PICTURE: NAHOM TESFAYE.

Advertisers

Africa Aerospace & Defence	73
AfBAA – African Business Aviation Association	105
Airbus	14, 15
Airways Aviation	26
Air Traffic and Navigation Services SOC Limited (ATNS)	IBC
AJW Group	45
Astral Aviation	95
Atlantic Air Industries Marco	104
Aviation Africa 2017	31
Bestfly Flight Support	74
CFM International	39
CH-Aviation	13
Dassault Falcon	81
ECAir	56
Ethiopian Airlines	IFC
Farnborough International Airshow 2016	44, 60
FlightPath International	4
Hahn Air	33
IAS Aviation Academy Botswana	108
Lufthansa Technik AG	21
MH Aviation Services	85
MTU Maintenance	11

NEXUS Flight Operations Services	8
Rolls-Royce	22
Saudia Aerospace Engineering Industries	OBC
South African Aerospace Technical (SOC) Ltd	16
Spectrum Aeromed	77
Starair	106
SuperJet International	7
TCR	37
The Boeing Company, Commercial Airplanes	2, 3
TP Aerospace	29
Turkish Aviation Academy	42, 43
Zambia Airports Corporation Limited	90



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09 **business brief**

News from around the region as we look at what has been making the headlines.

AIR TRANSPORT

17 Brussels sprouts over Africa

The Belgian airline did not shy away from its roots when Ebola struck its traditional markets.

«La compagnie belge a maintenu ses vols lorsqu'Ebola a frappé ses marchés traditionnels.»

COVER STORY

23 Milestone for Ethiopian

Africa's biggest airline clocks up 70 years and is growing stronger by the day.

32 Reunion in a fix

Reunion airlines face wrath from France as a challenge is mounted to rising air fares.

«Les autorités françaises remontées face à la hausse des tarifs des compagnies aériennes à La Réunion.»

34 AFRAA's new strong man

Air Zimbabwe acting CEO, Edmund Makona takes over as president of AFRAA.

«Edmund Makona, DG par intérim d'Air Zimbabwe prend le relais comme président de l'AFRAA.»

36 Mauritania's mission

Mauritania Airlines joins AFRAA and AACO and begins expansion of routes and fleet.

«Mauritania Airlines rejoint l'AFRAA et l'AACO et consolide son réseau et sa flotte.»

40 Recovery mode

How EgyptAir is responding to the economic aftermath of the Russian charter flight bombing.

44 CAMRA clicks

Cameroon's regional airline breaks new ground while the country's national carrier seeks help.

«Comment la compagnie régionale camerounaise innove pendant que la compagnie nationale cherche de l'aide auprès de Boeing.»

46 The strongest Link

Johannesburg-based Airlinik is boldly going where few other airlines have gone before.

49 Last man standing

Air Burkina CEO, Abderrahmane Berthé, has no intention of going the way of his former partners.

«Abderrahmane Berthé, DG d'Air Burkina, n'a pas l'intention de suivre le chemin de ses anciens partenaires.»

51 Rescue mission for Madagascar

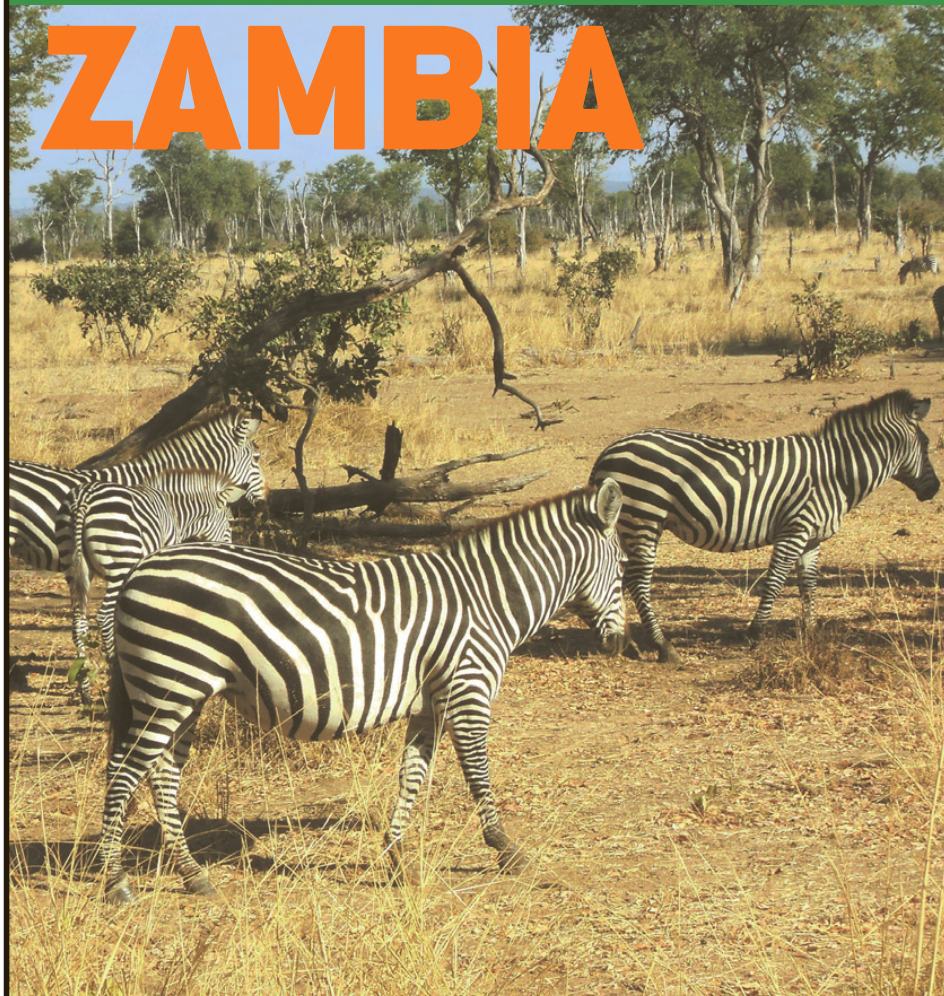
Air Madagascar's new DG, Gilles Filiatreault, has been tasked with turning the airline around.

«Le nouveau DG d'Air Madagascar, Gilles Filiatreault, a été chargé de transformer la compagnie aérienne.»

Continued
on Page 6

FOCUS ON...

ZAMBIA



91 REGULATOR: REVIVING REPUTATION

92 AIRPORTS: NATIONWIDE MODERNISATION

94 REGIONAL: MFUWE AIRPORT

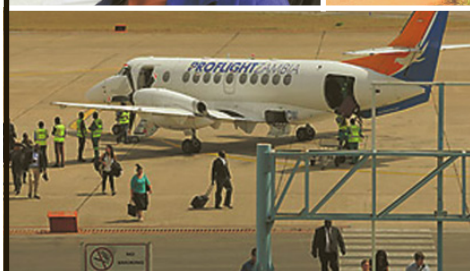
96 DEFENCE: SHAPING UP

98 ROTORCRAFT: POLICE PATROL

99 AIRLINE: PROFLIGHT PERFORMANCE

101 AIR TRANSPORT: OAG ANALYSIS

103 TRAINING: ZESTFUL ZASTI



54 Pointing the finger

Airline Operators of Nigeria call for change as industry unveils inefficiencies and losses.

55 Turbo charged

ATR has its sights on grabbing African market share.

57 Chopping Board

Air Botswana sacks its board but the airline soldiers on.

DEFENCE

61 Nigeria is Thunder struck

Nigeria is set to purchase JF-17 Thunder fighters as it takes the war to Boko Haram.

62 Oryx gets new life

Long awaited major avionics upgrade to South African fleet of Oryx transport helicopters.

64 Rooivalk return

Rooivalk helicopter programme is stepping up.

66 Moroccan might

How the Royal Moroccan Air Force (RMAF) fighter upgrades have integrated into its defence system.

«Comment la mise à niveau des avions de combat de la RMAF a intégré son système de défense.»

70 Extreme measures

Tunisia is making real efforts to combat militant extremism.

72 Pod cast

South Africa's new Inundu pod could revolutionise electronic warfare (EW) training.

SAFETY

88 Raising the standard

Increased use of global standards is improving Africa's aviation safety situation steadily.

«L'adhésion accrue aux normes mondiales améliore la sécurité aérienne en Afrique.»

ATM

106 CANSO can do

Positive results from CANSO's Cairo meeting.

EVENTS

109 Road to Marrakech

Morocco's growing aerospace support industry is set to shine at the Marrakech Air Show.

«L'industrie aéronautique marocaine en pleine croissance va briller lors du Marrakech Air Show.»

PEOPLE

112 All in a day

David Chawota, of Zimbabwe's CAA.

BUSINESS AVIATION

75 FIRST RESPONDERS
East African Aviation has become the first company in Ethiopia to own and operate an air ambulance aircraft alongside charter operations and a pilot training school.

77 STATE IN A STATE
The dismal tale behind South Africa's VIP state aircraft plans.

78 MOROCCO'S BRIGHTNESS
Once the foremost centre of learning on the globe, Morocco is still holding its own among much larger nations when it comes to innovation.

82 GETTING THE NAC
National Airways Corporation (NAC) may sound like an airline but it's not. It is, in fact, Africa's largest general aviation company.



AIRPORTS

86 MAKING THE GRADE
Aviation regulators, are pushing ahead to ensure certification of their aerodromes. We consider the importance of such programmes for airports in Africa.

87 GROUND WORK
Pre-owned ground-support system equipment could be a solution for capital-stretched African airlines and airports.



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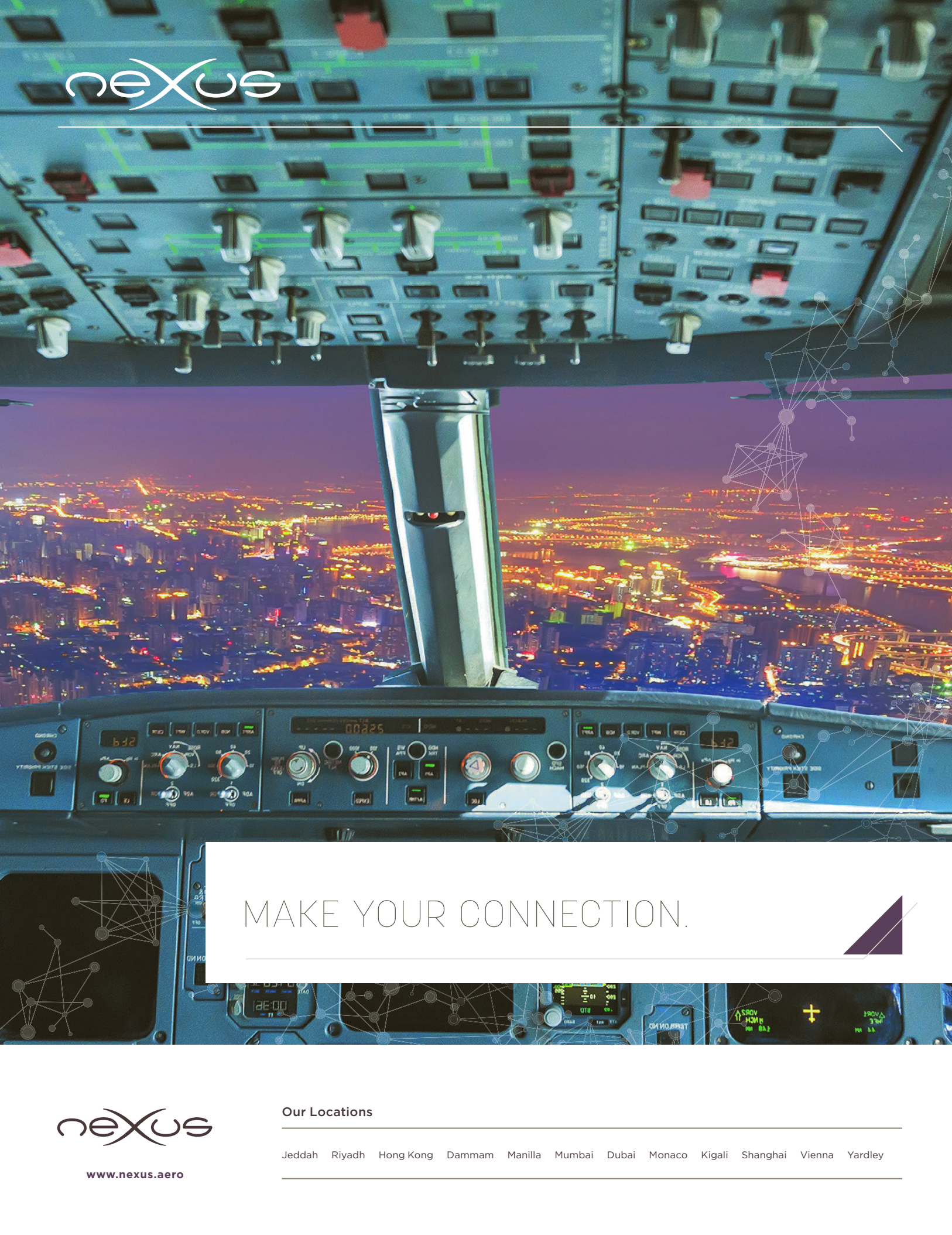


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Boeing joins Paramount to equip Mwari

South African defence company, Paramount, has secured essential technologies for its Mwari surveillance aircraft thanks to a deal with Boeing.

The two companies have agreed to collaborate on the light multi-role aircraft, with Boeing providing advanced intelligence, surveillance and reconnaissance capabilities and weapons systems for the aircraft.

Paramount Group executive chairman, Ivor Ichikowitz, said: "The multi-role aircraft will become a significant player in the global aerospace industry. We believe in the commercial success of the aircraft and its impact on the future of the African aerospace industry by boosting advanced technologies, job creation and skills development."

The Mwari first flew last year.

Ethiopia proposes new policy

Ethiopia plans to relax seat restrictions on privately owned airlines as part of a new aviation policy.

The policy will see private airlines allowed to operate 50+ seater aircraft. Current measures have been labelled anti-competitive as they give Ethiopian Airlines an unfair advantage.

The policy also proposes allowing private firms to operate airports, and restricts foreign investment in the local aviation sector, requiring all Ethiopian-registered airlines to be owned by Ethiopian nationals.

Air Algérie's 2016 launch

Air Algérie plans to have its new hybrid air-taxi/charter subsidiary launching at the end of 2016.

CEO Mohamed Bouderbala said that Air Algérie Services would specialise in air taxi and charter/medevac flights.

The hybrid unit is one of

five subsidiaries the carrier is planning to create alongside the government's plans to overhaul aviation in the region.

Air Zimbabwe protected

Air Zimbabwe has been protected from creditors for the next three years by the Zimbabwean parliament.

The carrier has been given until July 3 2018 to settle its debts with creditors.

The debts occurred after it was ordered to continue charging fares in the depreciating Zimbabwean dollar against fixed costs that were charged in US dollars, between 2001 and 2008.

Egypt selects Thales for upgrades

Thales has been selected by the Egyptian National Air Navigation Services Company (NANSC) to replace and renew air traffic management systems at Hurghada and Taba International Airports.

The project will see Thales deploy TopSky-ATC, TopSky-Tower, primary and secondary radar, and communication systems.

Bestfly secures its Angolan AOC

Bestfly has secured its Air Operator's Certificate (AOC) from the Angolan Civil Aviation Authority after a two-year wait.

The carrier is now licensed to operate third-party charters from Angola using its seven Angolan-registered aircraft.

Bestfly is working with the Angolan authorities to secure international rights, but until then its managed fleet of six Aruba- and Bermuda-registered aircraft will operate in a private capacity.

Express merger

Tunisair Express is to be merged into Tunisair to improve operational efficiency. The regional arm of the Tunisian national carrier has suffered from delays caused by a shortage on reliable aircraft. It operates three ATR72s and one CRJ-900.

AfBAA's Cape Town date

The African Business Aviation Association (AfBAA) has announced its 2016 symposium, the African Business Aviation Conference (AfBAC), will be in Cape Town on November 17-18.

AfBAC will incorporate forums and workshops, and aims to encourage a wider range of stakeholder participation and expand on themes surrounding African business aviation.

Sunny optimism

Africa's first solar-powered airport is to be established in South Africa, which will be fully functional without tapping into the country's electrical grid. The airport will run from installed photovoltaic panels and is set to be located in George.

Milestone for Kenya

Kenya Airways has leased a Boeing 737-800 Next Generation aircraft from GE Capital Aviation Services (GECAS), the 500th aircraft of its type off the manufacturing line.

ATNS signs ATM contract with Namibia



South Africa's Air Traffic and Navigation Services (ATNS) has signed an air traffic management (ATM) contract with Namibia's Directorate of Civil Aviation (NDCA).

ATNS is helping NDCA to migrate to the International Civil Aviation Organization (ICAO)-compliant automated aeronautical information management (AIM) service.

CEO, Thabani Mthiyane, said: "One of ICAO's requirements is the creation of a centralised repository for aeronautical information. Sharing of this information will be expanded to other aviation entities in Africa, using the appropriate exchange model."

Fastjet chief to step down

Fastjet's chief executive, Ed Winter, is to step down. Winter will remain at the company for a time as an advisor to assist the handover.

"I feel privileged to have had this unique and exciting opportunity to lead an incredible team in changing the face of African aviation.

"We have built a great platform from which the company can achieve its vision of being the first significant pan-African low-cost airline," said Winter.

Fastjet shares plunge

Fastjet shares dropped after the carrier said it would need to raise money following a warning that this year could be below market expectations.

Despite taking action to reduce operating costs, the carrier has said it no longer expects to be cashflow positive for the year after prolonged challenges in the market.

Fastjet has, however, stated that it will be able to meet its operational requirements with \$20 million.

The statement led to a shareholder call for directors to resign.

Mango Star launch

Mango Airlines has become the launch airline for the Star Alliance's connecting partner model (CPM).

CPM sees routes operated by low-cost carriers and hybrid airlines scrutinised for their fit into Star Alliance's network.

Successful candidates will sign bilateral commercial agreements with selected Star Alliance member airlines, but will not become members of the alliance itself.



Ethiopian training takes a front CEET

Ethiopian Airlines turned to UK firm, EDM, to manufacture a second cabin emergency evacuation trainer (CEET).

The CEET was manufactured in the UK and has a B787/B777 configuration, allowing the carrier's cabin crew to train on both aircraft types. The CEET consists of business and economy class seats, with a replica galley, lavatories, cabin attendant

seats and control panels. It is also fitted with SPETRE, Manchester-based EDM's audio-visual system that replicates pre-programmed emergency scenarios such as aborted take-off, engine fire and decompression.

For transportation, the CEET was manufactured to a modular design, separated and packed into six modules.



Angela Gitten: "Travellers are expecting big things from the airports through which they travel."

Mauritius Africa's best airport

Sir Seewoosagur Ramgoolam International Airport, Mauritius, has been voted the best airport in Africa in 2015 at the Airport Service Quality Awards.

It won the prize in the more than 2 million passengers per year category.

The award was voted for by passengers in a survey on customer service, with more than 55,000 taking part.

"Airports are customer-focused businesses that are in competition with each other for passenger traffic. From duty free and restaurants to ambiance, cleanliness, courtesy of staff, amenities, efficiency and more, air travellers are expecting big things from the airports through which they travel," said Angela Gitten, director general of ACI World.

EgyptAir signs with SITA

EgyptAir has signed a five-year contract with SITA for the implementation, management and modernisation of the airline's communications network.

SITA is providing the carrier with a network that will provide secure and reliable connectivity to EgyptAir's headquarters and across 190 sites.

Ethiopian order

Ethiopian Airlines has signed a firm purchase agreement for two additional Q400 turboprop airliners, bringing the Addis Ababa-based airline's Q400 aircraft fleet to a total of 19 aircraft, the largest total fleet in Africa.

Skywise on hold

South Africa's Skywise has suspended operations indefinitely after it was unable to reach a compromise with the Airports Company South Africa (ACSA) over the

payment of outstanding debts. ACSA has twice banned Skywise from using any of its airports after the budget carrier failed to settle fee arrears on time.

A321 for FlyCAA

FlyCAA has taken delivery of its maiden A321-200. The aircraft will be deployed on flights from Kinshasa N'Djili to Lubumbashi, Goma, Kisangani, Mbuji Mayi and Kananga.

Green for go!

Green Africa Airways has secured its air transport licence (ATL) from the Nigerian Civil Aviation Authority. CEO, Babawande Afolabi, said the start-up is currently completing all regulatory requirements ahead of its launch.

Omni deal

Kenya Airways is to sell two Boeing 777-200ERs to Omni Air International, a US-based airline that provides global wet lease and charter programmes.

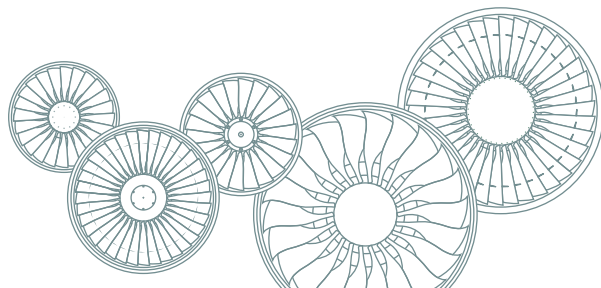


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ICAO lifts SSC against Botswana

The International Civil Aviation Organisation has lifted two significant safety concerns (SSC) against Botswana after the country passed a coordinated validation mission.

The SSCs were implemented in 2013 after an audit identified problems with the Civil Aviation Authority of Botswana's (CAAB) regulation of air operations and airworthiness.

It was found that major modifications and aircraft repairs were carried out without CAAB approval. Removal of the SSCs, and CAAB's renewed ability to certify new airlines, is expected to benefit the local aviation scene, and start-ups such as Blue Sky Aviation.

Ethiopian signs with IOCC

Ethiopian Airlines has teamed up with IOCC Consulting in a long-term agreement regarding aviation simulators and training at its headquarters in Addis Ababa. Ethiopian has upgraded its aviation academy and is hiring out its simulators as part of the academy's business growth plan.

Air Serv starts Kalemie ops

Air Serv has started operations in Kalemie, Democratic Republic of Congo, to support humanitarian projects.

The area is under stress from secessionist violence, which has led to responses from international non-governmental organisations.

Air Serv has a Kalemie-based Cessna Grand Caravan that will fly medical and relief workers between different sites that are inaccessible by road.



US withdrawal from Ethiopian drone base

The US Air force has shut down the drone base in southern Ethiopia that it has been using to fight the Somalia Islamist militant group, Al Shabaab, for the past four years.

In 2009-2010 the US Air Force invested millions of dollars to upgrade the Arba Minch Airport runway and built a small annex to house a fleet of Reaper drones, equipped with Hellfire

missiles and satellite-guided bombs. The air force deployed the drones in early 2011 and has been flying them since then on counter terrorism missions as part of a US-led proxy war against the al-Qaeda affiliate in war-torn Somalia.

Arba Minch is located about 300 miles south of Addis Ababa and about 600 miles west of the Somali border.



Students learn about business aviation first hand

The Middle East & North Africa Business Aviation Association (MEBAA) has launched a new series of events with an education session at the International University of Rabat in Morocco.

The event attracted more than 200 students from several universities across Morocco, plus faculty and business aviation professionals. It was opened by the president of the university, followed by a speech from Ali Ahmed Alnaqbi, MEBAA founding chairman.

Among the speakers were Khalid Cherkaoui, director general of the Moroccan Civil Aviation Authority, and Ibtissam Mghari, director of marketing at the Moroccan Airports Authority (ONDA).

"We are here to continue our effort in raising awareness and educate students on the importance of business aviation and enlighten them about all the opportunities awaiting them after graduation," said Alnaqbi.

Libyan leases A320

Libyan Airlines has wet-leased an A320-200. The aircraft has come from Moldovan ACMI/charter specialist SkyPrimAir.

The A320 has been seen in service connecting Benghazi and Beida with Istanbul Atatürk and Amman Queen Alia.

Zambia travel boost

Travellers can now book flights from across Zambia to Cape Town, Port Elizabeth and East London in South Africa under a new agreement between Proflight Zambia and SA Express.

ExecuJet expands

ExecuJet Aviation Group has expanded its African fleet with the addition of a Bombardier Challenger 850, which will be based in Johannesburg.

Chay White, sales manager, aircraft management, ExecuJet Africa, said: "We are very excited to offer the Challenger 850 to our

customers in Africa. The addition of this state-of-the-art aircraft follows a high level of interest in large-cabin, mid-range aircraft in the region."

Gemalto for Gabon

Gabon has selected Gemalto for its fully integrated border and visa system that simplifies and speeds the issuance of visas, e-visas and residents' permits. The new scheme will strengthen national security, improve operational efficiency and enhance the travelling experience, Gemalto said.

Super deal

Egypt's Air Leisure has signed a memorandum of understanding for four SSJ 100-95s with options for six more. It is expected the first aircraft will arrive by the end of the year.

The deal also includes possibly developing a joint-venture which could lead to acquiring 45 SuperJets over a three-year span.

Nigerian safety move

IATA and Nigeria will collaborate on developing measures to enhance the African Union's 2012 Abuja Declaration on Aviation Safety.

Nigeria's Civil Aviation Authority director general, Captain Muhtar Usman, said: "Nigeria is committed to supporting its implementation across the sub-Saharan Africa through developing new strategies that will see the recent gains on Africa's safety record sustained and even improved."

Swazi Airways set

Swazi Airways has taken delivery of its first aircraft, a B737-30.

The airline is awaiting a Swaziland Civil Aviation Authority inspection to be completed before it can be put into service.

Air Libya B737

Air Libya is to take delivery of its first B737-500, a dry-lease from lessor Aerovista. The aircraft previously belonged to Olympus Airways and will join the fleet of one ARJ-100 and one BAe 146-200.

Air traffic boost

South Africa's air traffic management firm, ATNS is to have 100% air traffic surveillance of Johannesburg Flight Information Region (FIR) through Aireon's satellite-based automatic dependent surveillance-broadcast



Jambojet to launch new fare structure

Jambojet's CEO has announced plans for the low-cost carrier to become more user-friendly. CEO Willem Hondius confirmed that the airline plans to launch a more flexible air structure, building on the single fare that includes one piece of hand luggage and a system-allocated seat.

The new structure will include a more flexible fare, allowing travellers freedom to rebook in case they need to stay longer than initially planned.

It will also allow passengers to pay for a specific seat, and pay for checked baggage.

(ADSB) system following a new agreement.

"Much of Africa is currently without any air traffic surveillance. Aireon's service will give us visibility into many regions, allowing us to facilitate seamless transitions between air traffic control providers," said ATNS chief executive Thabani Mthiyane.

Nigerian assets seizure

The Economic and Financial Crimes Commission has started to seize assets belonging to officials at the Nigerian Airspace Management Agency. Individuals at NAMA are still being questioned over a NGN5 billion (\$25 million) incident.

Aviation Africa summit to Kigali

The successful Aviation Africa summit is to move to Rwanda following its launch in Dubai last year.

The Aviation Africa 2017 event will take place on February 22-23 2017 at the Serena Hotel in Kigali. It will be a two-day conference and exhibition focusing on all aspects of the aviation industry, including MRO, business aviation, defence and commercial aviation.

Kenya's US plan

Kenya plans to start direct commercial US flights later this year after meeting requirements set out by the Federal Aviation Authority. Operations could begin as early as next month.

FlyCAA stays home

FlyCAA has ended its international operations following suspension of its Lubumbashi-Johannesburg OR Tambo route. The three-times weekly route was the carrier's only international route.

Equaflight's ATR72

Equaflight Service has wet-leased an ATR72-200 from its sister carrier, Aero4M. The two airlines are subsidiaries of Regourd Aviation. The ATR72-200 will join two leased ERJ-135s.

Air Monrovia launch

Air Monrovia is planning to begin operations in the second half of the year.

It is expecting two aircraft to arrive in Liberia

in June ahead of the launch.

Liberia has been without a scheduled domestic operator since the collapse of Liberia Airways in 1998.

Mali orders C295W

Mali has become the 23rd nation to order the Airbus Defence and Space C295W transport and special mission aircraft.

It has ordered a winglet-equipped C295W model in transport configuration for the Mali Air Force. The aircraft is expected to arrive in the second half of this year.

Asia expansion

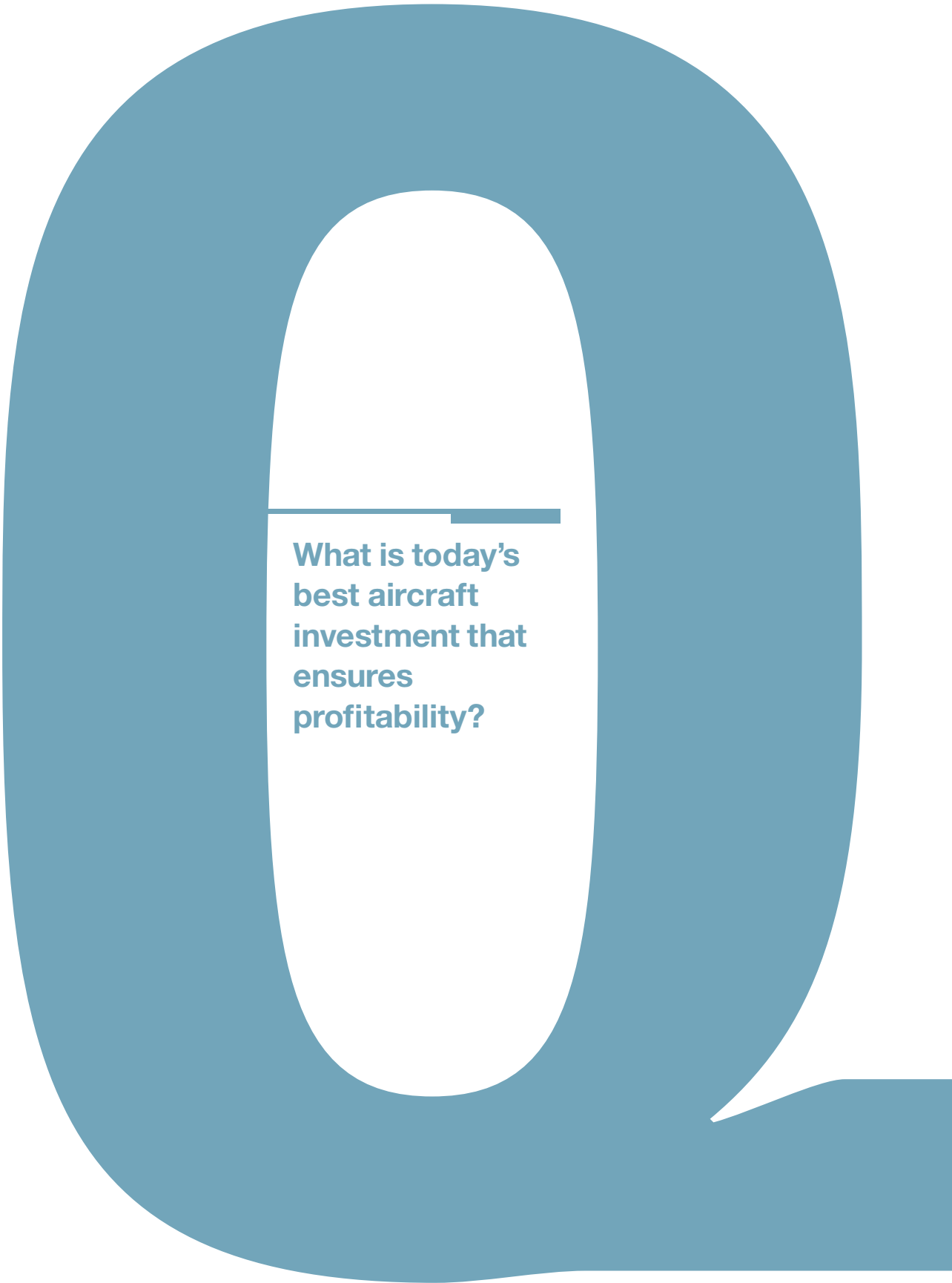
Denel has established Denel Asia to expand its business into South East Asia as a joint-venture company in Hong Kong.

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**SOUTH AFRICAN AIRWAYS
TECHNICAL**



Bernard and the crew on an Ebola flight.

FLYING IN THE FACE OF FEAR

« Voler malgré la peur » – Page 20

*Brussels Airlines was the only European airline to maintain flights to the three Ebola-hit countries during the recent epidemic in west Africa. During that time CEO, Bernard Gustin, had to make tough calls – both personally and professionally. Here, he shares his personal experience of the crisis and why Africa is so important to his airline with **Victoria Moores**.*

You are sitting at a dinner and the person beside you tells you they have been exposed to a deadly disease. How do you react? This is exactly the situation Brussels Airlines CEO, Bernard Gustin, wanted to experience.

“To animate the table, the CEO of a major company in Belgium looked at me and said, ‘Bernard, how’s it going with Ebola?’. Very candidly, I said, ‘I’m just back from Monrovia’. I could suddenly see my two neighbours wondering, if they shook hands with me, whether they should immediately go to the toilet

to clean their hands. I could see them wondering if it was wise to stay sitting next to me during the whole evening. That was an interesting experience, but if I hadn’t done that, I wouldn’t have seen how my staff were living, not by doing the flight, but when they came home. That’s where the pressure was.”

Brussels Airlines provided an essential air bridge to Africa during the Ebola crisis in Guinea, Liberia and Sierra Leone – the largest known outbreak since the disease was discovered in 1976. This triggered plaudits and high

Continued
on Page 18



CONTINUED FROM PAGE 17

praise from the United Nations, the White House and the queen of Belgium.

“Now everybody congratulates us. We shouldn’t forget that a few months before we were insulted. We were seen as the worst of the worst, because we were the ones who were going to bring the sickness to the entire world and make millions of people ill. Everyone is now saying that what we did was fantastic, but we should never forget that at one point everyone was saying ‘can you stop please’.”

The situation is clear and simple with 20:20 hindsight. But, as it was unfolding, did Gustin have any doubts? “It’s very easy to analyse retrospectively. We took some good decisions but they were exposed as good decisions retrospectively, I didn’t know that when we took them. For me, what was very clear is that we were not putting our people at risk. I think that is important. We were dealing with primal fears and the media made it very subjective.”

Gustin decided not to ask for volunteers to fly to the Ebola-hit countries. However, no crew member was forced to operate either.

“If people didn’t want to do it, they could just say they were unfit to fly. I didn’t have a problem with that. It’s like a reality TV show where you have to put your hand into a basket of snakes. You know that the production crew has taken away the snakes’ teeth, but despite knowing there is no danger, despite being convinced there is no risk, some people simply cannot put their hand in the basket. I can understand that.”



Gustin gave the theoretical example of a young stewardess, who has just joined the company, filled with hopes and dreams of her new airline career. Then she learns her next flight is to Ebola-riddled Monrovia. She is told that people will be wearing masks and gloves. That she will need to do the same. And she agrees to fly anyway, even though she may be stigmatised back home in Europe.

“My staff are hostesses, stewards and pilots. Out of 300-400 people flying to Africa, we had a maximum of 40 people saying ‘I don’t want to go’. That’s what has been amazing. I have so much admiration for the staff of Brussels Airlines, particularly the ones who were staying there, the ones who maintained that bridge. It is not their job to fly to three Ebola-hit countries, they didn’t ask to go to there, but they share the same passion, the same vision. If someone doesn’t want to follow you, they don’t follow you. Here they all followed.”

To convince people to follow, you have to be a good leader, setting an example through your own actions. Gustin admits that he loves to help on board, that he finds “playing the steward” far more interesting than sitting in his seat, watching in-flight entertainment. Unsurprisingly, he met the responsibility of leading by example head on.



Brussels Air CEO Bernard Gustin is thanked for the airline's efforts by President Ellen Johnson Sirleaf of Liberia.

African partnerships

While Brussels Airlines remains committed to Africa, not every project has gone according to plan. In September 2015, it was forced to close Congolese joint venture Korongo Airlines due to a lack of critical mass, a rival national carrier project and technical problems with its sole aircraft.

Brussels Airlines and some Congolese investors launched Korongo Airlines in 2012 as a domestic and regional carrier for the Democratic Republic of Congo. However, the Congolese Government decided to press ahead with plans to create start-up carrier Congo Airways as a rival airline, seriously limiting Korongo Airlines’ growth potential.

“This is a fantastic continent with a series of challenges. We learned that with Korongo,” said Brussels Airlines CEO Bernard Gustin. “There is not enough connecting traffic, which makes it tremendously difficult to develop a product offering. I’d never say never [to a new partnership], but it’s clear we have come out of this with a lot of learning, which doesn’t encourage us to do it in the short term.”

Gustin hinted at the next big African move for Brussels Airlines. “We need to be present in Nigeria,” he said. “Let’s see how the economy recovers. It is clear with our US network and feeder services, that if you ask where we have to be, the answer is Nigeria.”

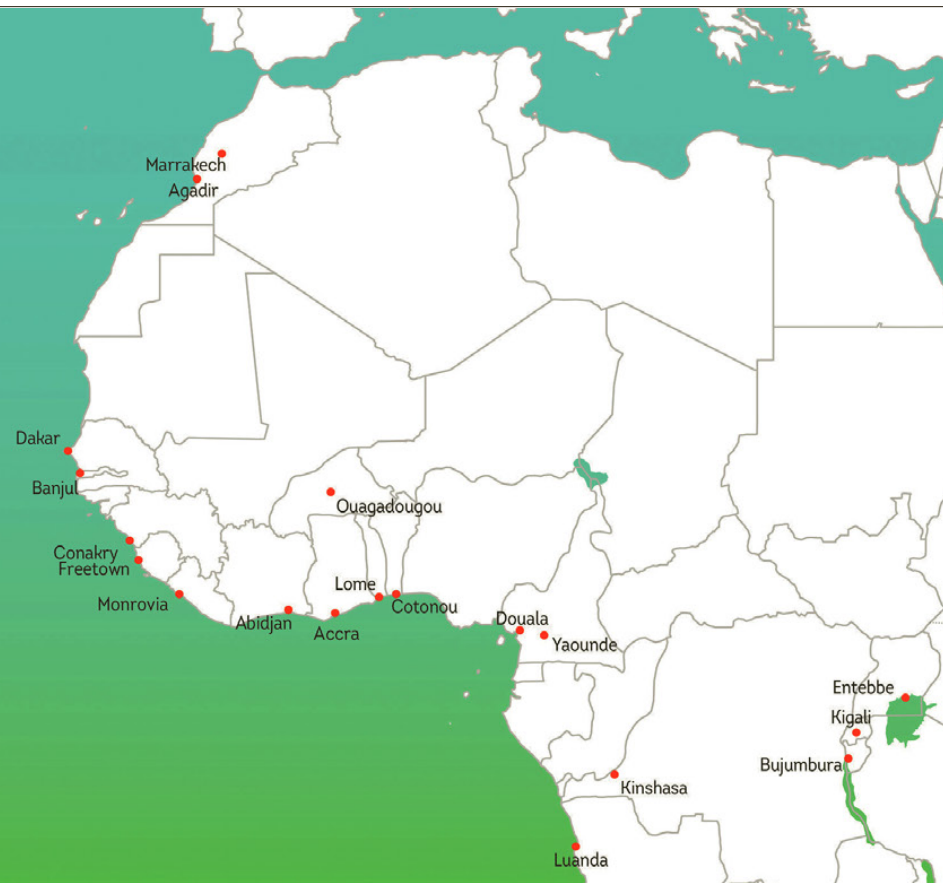
Several other senior staff, including the airline’s chief financial officer and head of operations, also pitched in and travelled to Africa to experience the situation on the ground.

“You cannot say, ‘Guys go, there is no danger, but I won’t go with you because I have important meetings in Frankfurt, or Brussels’. So, I flew as cabin crew. Passengers didn’t know who I was. I served on two flights and that allowed me to share the experience of my crews.”

A person infected with Ebola will typically develop a fever, headache, joint and muscle pain, a sore throat and intense muscle weakness two to 21 days after becoming infected. “After 21 days, I was shivering a bit. It was November and I was hoping I wouldn’t get flu, or a fever. I started to wonder about things I didn’t want to wonder about. I also went to meetings, explaining I was just back from Monrovia and people were absolutely not congratulating me.”

Gustin confesses it was a very, very difficult year. “I am not head of a non-government organisation (NGO), I am head of a private company and I cannot put our own employees and staff in abnormal danger.”

However, the Brussels Airlines CEO was not asking his staff for blind trust. And he was not on a personal mission to save Africa. Gustin brought in doctors from Médecins Sans



Above. The Brussels Air map and right - Brussels Airlines crew were on board with the decision to fly.

Frontières (MSF) to advise on the risk, he created a video for his staff and put real key performance indicators (KPIs) in place. He also stressed he was 100% willing and ready to halt flights immediately, should those safeguards be breached.

“We laid down a clear line. We said if someone showing symptoms of being contagious got on a flight and afterwards tested as being Ebola-positive, we would immediately stop operations. If that happened, it meant the safety net at the local airport didn’t work and we needed to stop because the risk was too high.”



This was almost tested when a passenger, who flew with Brussels Airlines to the USA, died from Ebola. “He didn’t have any symptoms at the time [he flew], so he was not contagious. It was much better that we continued to operate, because he would have flown anyhow and, if he had taken a more clandestine approach, we would not have known who he came in contact with. MSF and the World Health Organization (WHO) clearly said we were not part of problem; we were part of the solution.”

The crisis also delivered an indirect solution for Brussels Airlines itself. In Africa, Sabena’s legacy was so strong that its successor continued to live in its shadow and was never

Bike for Africa

Every two years, a group of Brussels Airlines employees and Belgian CEOs head off down to Africa on a charity mountain bike ride, in support of African non-government organisations and humanitarian projects.

“Our VP for Africa loves to cycle and he said ‘why don’t we cycle between Burundi and Uganda?’. This was the first Bike for Africa, which raised €80,000 (\$87,777),” said Brussels Airlines CEO Bernard Gustin.

Two years later, Gustin joined the next trip, a three-day cycle which raised €300,000 (\$329,200) for good causes. By the third trip, the fundraising total rose to €350,000 (\$384,000) and the trip had been extended to four days. This time, the group included 55 Brussels Airlines staff, 15 top Belgian executives and members of the media.

Gustin was hooked. What’s more, he used that third trip to take the group to west Africa – specifically Senegal and Gambia – as part of his Ebola myth-busting campaign.

Brussels Airlines encourages its staff to volunteer at local hospitals and schools when they night stop in African countries. It also supports Africa through its b.foundation charity, which is dedicated to helping projects on the continent.

really recognised under its own brand.

This changed because of Ebola. “In Africa, Brussels Airlines was still Sabena. By playing a major role in the crisis, we created our own identity. Brussels Airlines now has its own brand. This spans further than the three countries touched by the crisis; it spans the entire continent.”

Gustin could have stopped there. He had maintained a vital lifeline when others had folded and had secured recognition for his determination to keep the continent connected. But he went further still by launching the ‘Africa is not Ebola’ campaign to head off the international hysteria that surrounded the crisis.

As Ethiopian Airlines CEO Tewolde Gebremariam said at the 2014 African Airlines Association (AFRAA) conference, Europe, America and Asia wrongly perceive Africa as a single country, rather than 54 states. The Ebola virus was only present in three.

“The three countries in west Africa most highly affected by Ebola are closer to Europe than east Africa, which is more than 6,000km away,” Gebremariam observed back in 2014. Yet people did not stop travelling to Europe because of the Ebola scare. They stopped travelling to Africa, causing a devastating economic impact to the continent as a whole.



CONTINUED FROM PAGE 19

Through the 'Africa is not Ebola' campaign, Brussels Airlines sought to challenge those negative perceptions and rebuild the continent's image with American and European travellers.

"For me, as a captain," Lufthansa Cargo MD-11F fleet chief Fokko Doyen said, "it's hard to understand the hysterical reaction of so many Europeans. I did three relief flights with freighters to Sierra Leone during the most significant period of Ebola. As all processes during transit were well organised – we had our own maintenance and loading team with us – we never came into direct contact with locals. And, even more importantly, there was never, ever a chance of coming into contact with infected people on the aircraft. But, nevertheless, my colleagues told me not to shake hands for the following four weeks. This is just hysteria – nothing else."

But why did Brussels Airlines go through all this effort to maintain its presence and reputation in Africa? That answer requires a bit of history.

Brussels Airlines was created in 2001 from the ashes of Sabena, and Gustin was part of the team that developed the new airline's business plan. To succeed, it would need a clear focus. Brussels Airlines could not have a 360-degree hub, so the team chose to preserve Sabena's strong African ties. This decision played a key role in ultimately attracting Lufthansa as a strategic investor in 2009.

"From 2001 to 2012, our long-haul network was exclusively dedicated to Africa," Gustin said. While the airline has since added New York, Toronto and Washington, eight of its 10 long-haul aircraft remain dedicated to Africa. Today, it serves a network of 19 destinations on the continent, specialising in sub-Saharan Africa.



Gustin had no involvement with Sabena before Brussels Airlines – back then he was busy dealing with "diapers and detergents" at consumer goods firm Procter & Gamble – but he clearly recognises the significance of Africa to his airline. However, maintaining this local expertise is challenging as the former Sabena staff, who went on to join Brussels Airlines, are ageing and approaching the end of their careers.

"We need to ensure that 'savoir faire' continues," he said. "When I recruit people, I make sure that they love Africa and want to go to Africa. People on our young professional career programme start in Africa. One of my real concerns is that young graduates are interested in China and India, but I want them to be interested in being an African country manager."

One of the top jobs, he said, is being country manager for the Democratic Republic of Congo (DRC), managing 200-350 in-house staff. "The real challenge is that, while Africa is fantastic and amazing, it is not always as attractive as other places in the world."

Gustin sums up Brussels Airlines' Africa ethos in one statement. "Africa is our second home," he said. Home is a place for family. And family stick together through thick and thin.

SOMMAIRE

Brussels Airlines est la seule compagnie aérienne européenne à avoir maintenu ses vols vers les trois pays d'Afrique de l'Ouest touchés par la récente épidémie Ebola. Victoria Moores a recueilli le témoignage de son directeur général, Bernard Gustin.

Voler malgré la peur...



Bernard Gustin.

Brussels Airlines a assuré un pont aérien essentiel vers l'Afrique durant la crise du virus Ebola en Guinée, au Libéria et en Sierra Leone. L'attitude de Brussels Airlines a reçu des éloges de l'ONU, la Maison Blanche et la reine de Belgique.

Ce fut pour Bernard Gustin une expérience intense du point de vue personnel et professionnel. « Tout le monde nous félicite aujourd'hui mais il ne faut pas oublier qu'il y a quelques mois, nous étions copieusement insultés. Nous étions considérés comme ceux qui allaient propager le virus dans le monde entier et rendre des millions de personnes infectées ».

Avec du recul, notre devise était pourtant simple : ne pas exposer notre personnel aux risques. « Nous avions affaire lors de cette crise à des peurs primaires et les médias ont été très subjectifs à ce sujet ».

Bernard Gustin a rappelé qu'aucun collaborateur (PNC, PNR) de Brussels Airlines n'a

été forcé de voler vers ces pays. Environ 300 à 400 personnels naviguent vers l'Afrique et seulement 40 personnes ont choisi de ne pas y aller. Pour convaincre les gens à suivre, vous devez montrer l'exemple. Bernard Gustin a voyagé plusieurs fois vers ces pays. Il admet qu'il aime aider au même titre qu'un membre d'équipage plutôt que de rester assis sur son siège. Plusieurs autres membres de la direction générale ont de l'expérience du terrain.

Il y a eu beaucoup de précautions prises. Brussels Airlines a consulté des médecins de MSF sur les risques et s'est assurée des garanties de sécurité en particulier sur les procédures de contrôle aux aéroports.

Brussels Airlines a également lancé une campagne médiatique appelé « l'Afrique n'est pas Ebola » lors de cette crise. L'Europe, l'Amérique et l'Asie perçoivent à tort l'Afrique comme un seul pays, plutôt qu'un espace composé de 54 États.

Brussels Airlines et l'Afrique

Brussels Airlines a fait de nombreux efforts pour maintenir sa présence et sa réputation en Afrique. Selon Bernard Gustin, le réseau de la compagnie était exclusivement tourné vers l'Afrique entre 2001 et 2012. Aujourd'hui, il compte 19 destinations sur le continent. La compagnie a depuis ajouté des routes vers New York, Toronto et Washington.

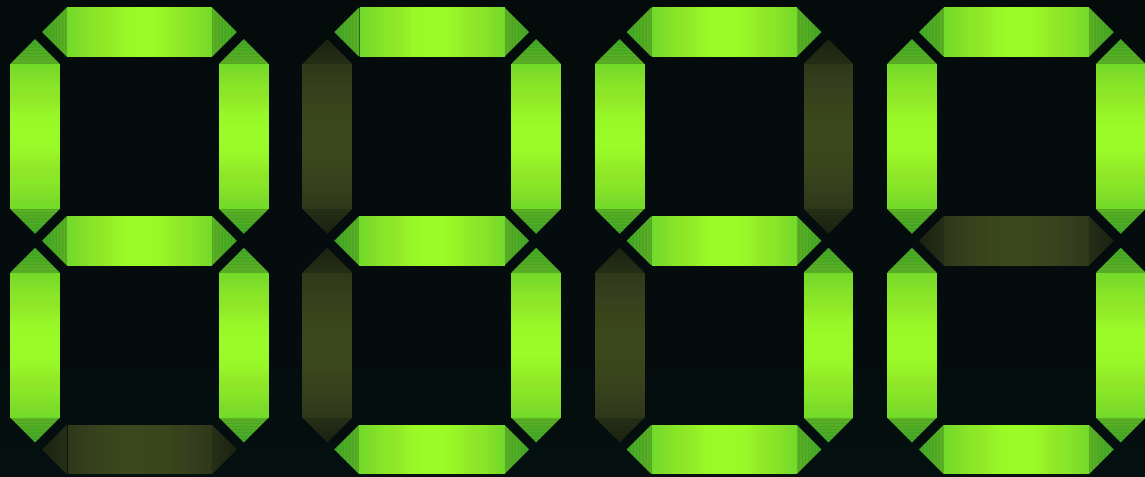
« Nous devons faire en sorte que notre savoir-faire continue », soutient Bernard Gustin.

Un groupe d'employés de Brussels Airlines organise des opérations de charité pour soutenir des organisations non gouvernementales africaines et des projets humanitaires.

Brussels Airlines mène des projets et des partenariats sur le continent. L'un d'entre eux fut Korongo Airlines en partenariat avec des investisseurs congolais. Korongo Airlines a cependant été contraint de cesser ses opérations en septembre 2015 en raison d'un manque de trafic, des problèmes techniques sur son avion et surtout du lancement d'un projet de transporteur national rival : Congo Airways.

Brussels Airlines continuera à développer son propre réseau y compris sur le continent. Selon Bernard Gustin, la prochaine grande initiative africaine pour Brussels Airlines pourrait être le Nigéria.

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Tewolde Gebremariam:
"Ethiopian Airlines gave
the opportunity for
Africans to think of their
continent to trade with
their neighbours."

*Ethiopian is the most profitable, the fastest growing and the largest airline in Africa. In the past 10 years it has grown sevenfold. The carrier is now celebrating its 70th anniversary and our Ethiopian correspondent, **Kaleyesus Bekele**, spoke to Group CEO Tewolde Gebremariam.*

THE MAGNIFICENT SEVENTY

Tewolde Gebremariam has a smile on his face as he looks at his calendar. April 8 has special significance, as it is 70 years to the day that Africa's major flag-carrier began its first operations with wartime surplus DC3s and DC6s under a management contract with TWA.

"The idea was mainly to serve the country and also the neighbouring areas. Some African countries were still under colonisation; some were taking their independence. So I would say Ethiopian Airlines was established with a grandiose pan-African vision," the CEO said.

"As you know, Emperor Haile Selassie played a vital role in the establishment of the African Unity with Dr Kwame Nkrumah and Julius Nyerere. It was a concept developed with independence and self-sufficiency and, at that time, Ethiopia was the oldest independent civilization in Africa, so it was leading in the continent in many aspects, including in aviation."

Tewolde talks with pride of the airline's growth as it operated alongside the Organization of African Unity (OAU) in the 1960s. "Because of the colonial history in the 1970s and 80s, the African countries' trade relations, tourism, and investment was mainly south-north. But Ethiopian Airlines gave the opportunity for Africans to think of their continent to trade with their neighbours. We were the first airline to connect east and west of the continent. We used to have a flight from Addis Ababa all the way to Abidjan with, of course,

Continued
on Page 24



Close links between the US and Ethiopian were demonstrated last year when President Obama joined Tewolde for a tour of the airline's latest Boeing aircraft.

CONTINUED FROM PAGE 23

many stops. At that time it was not point-to-point like we have today.”

Tewolde joined the airline in 1985 – more than 30 years ago – and has witnessed many of the major developments. “The most challenging times for the airline included the socialist revolution in 1974 that toppled the imperial regime. Then again, in 1991, we saw the downfall of the military regime and the airline had to restructure itself.

“In 1998-2000 the Ethio-Eritrea war was a big challenge for the airline and we had to adapt to change. At one time, being a socialist country, it was not possible to buy aircraft like Boeing and Airbus from western countries. But the airline’s management made a special arrangement with the government and the manufacturer, Boeing, so we kept on with their aircraft.

“The military regime wanted us to buy USSR planes. If we had done that, we would not have the airline that we are proud of today.”



Tewolde has never been frightened of getting his hands dirty as he worked through the ranks at the company. The change of government in 1991 saw Ethiopian briefly move its operations to neighbouring Kenya.

“I was part of the team that took the aircraft to Nairobi. We got a lot of credit from our customers because we were able to continue our operation without any interruption. Operation in Nairobi was very difficult because the airport was not ready to accommodate another airline.

“There was dearth of manpower, so we had to carry passengers’ bags ourselves. There was not

enough parking for the aircraft. It was a very tough time. We were working on passenger flights during the day and, at night, we were working on cargo operations. We were carrying fruit, vegetables and flowers from Kenya to Europe. It was a very tough operation for the entire team.

“Our maintenance people faced similar challenges because all our parts were in Addis Ababa.

“If you put this together, 70 years of dedicated service, three change of government systems, and various crisis, the airline kept its flights and schedules at all times, so this is a very strong sign of dependence and reliability. That is why customers give it credit in terms of loyalty and a strong vote of confidence.”

Tewolde puts the history of the airline in two distinct parts – the first 60 years and then the last 10.

During the first period, the airline was inward looking and having to create a platform for growth. “The mid-60s was the time that Ethiopians were trained. Ethiopian pilots, technicians and management personnel were trained. It was a transition period.”

In 2004, Girma Wake came back from Gulf Air as CEO and led a review of the business plan.

“We concluded that the airline had a very good opportunity to grow. So we came up with Vision2010. That was a resounding success and we have overgrown what we planned.

“The main driving force in Vision2010 was the target of getting the airline’s annual turnover of \$1 billion. By June 2010, we closed at £41.2 billion revenue and in profit.”



Tewolde succeeded Wake the following year and, encouraged by the exceptionally remarkable performance, worked to develop Vision 2025.

“In Vision 2025 we have done three things differently,” he said. “Firstly, we expanded the planning time horizon from five years to 15 years, then we scaled up the growth rate.

“The reason why we expanded from five years to 15 is also a defining moment for the industry. We are seeing a new generation of aircraft – completely new technology like the B787. If you see the Dreamliner and compare it with its predecessor, the B767, they are completely different in terms of technology, in terms of digitisation, in terms of fuel utilisation, and in terms of speed, so next generation aircraft were on the horizon in the designing stage. The same is true with the A350.

“We said we have to plan to the next 15 years



Ethiopian fleet now and tomorrow

Domestic routes are operating the Bombardier Q400 and the airline is adding more domestic services. Its international market is growing at around 20%.

It has 17 Q400s with two more on order and is negotiating with Bombardier to add more.

On the short-range small capacity routes it has the B737NG, which will be upgraded to the MAX.

In the mid and long-range region it has the B787-8 and -9. The first B787-9 will arrive in 2017, leased from ILFC. Then it has the B777, with long-range wide-body capacity. The B777ER carries 400 people. And the airline has added the A350 with 340 passengers.

Tewolde said the airline is evaluating the B777X, which could fly direct to Washington if the new lower-altitude airport goes ahead.

Ethiopian is also going to evaluate the A350-1000. "Airbus has told us to wait for few months as they are working on the design of the expanded version," Tewolde said.

and that is an average time needed to finance these aircraft, so we changed our planning policy and decided that we should have a 15-year strategic roadmap at any point in time."

Ethiopia is investing heavily in infrastructure to back the airline's mission and its pan-African sentiment. The goal of broadening Africa's vision to deal beyond its former colonial ties has been part of the airline's route development.

"We were the only carrier from Africa, and among only four in whole world, flying to China in 1973. We were also flying to New Delhi, later to Bombay," Tewolde said. "That showed Africans a new opportunity; a new era of trade; a new era of investment in the east. It was a new bilateral trade outside of the colonial route or trade lane.

"Today Africans travel in large numbers to India, China and we were pioneers in those routes. Also nowadays, Ethiopian Airlines flies



directly to the USA and Canada. So Africans do not have a problem to travel to the US, as they did in the past.

"The next stage for Africans is to educate themselves and get ready for the 21st Century. Africa is going to grow. It has more than one billion population and a large land mass; more than 60% of the world's uncultivated arable land is located in Africa. It is very rich with natural resources, including oil and minerals. It has a very young population, easily trainable and ready to work.

"If you put all these together, Africa is going to be the global stage of competition for manufacturing industrialisation, tourism and so on. It will be like China was in the 1980s. We believe that the young have to be prepared for this.



"Education is the greatest equaliser in our world today. That is the main reason why we are investing so much in our aviation academy. Because, following the socioeconomic development in Africa in the 21st Century, aviation is going to grow.

"The current crisis, as far as I am concerned, is part of a usual economic cycle. This crisis will be resolved. Today most African countries are suffering from low commodity prices. A recovery will come. It is a temporary problem.

"Aviation will grow. There is one chronic problem in the continent. Aviation is growing in Africa but indigenous African aviation is not growing, rather it is declining.

Continued
on Page 27

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About 20 or 30 years ago, the market share of indigenous African airlines was around 60%. That market share today is only 20%. The market share of non-African airlines has grown to 80%. We are witnessing the decline of indigenous African aviation.

“Take the Democratic Republic of the Congo (DRC). The DRC today does not have an airline. But, 30 years ago, the DRC had Air Zaire, which was operating B747 aircraft. If we do not work hard to resolve this problem, then we will lose the continent’s aviation completely.

“We have to train our people. We have to prepare them as professional pilots, professional technicians, engineers, aviation leaders in management, in sales, marketing and all the aviation fields. That is what we are currently doing in terms of the huge investment infrastructure.

“If you walk into an airline in Europe, or in the US, you do not see such a huge infrastructure investment, because an airline focuses on its core business of flying people and goods.

“But, in our case, we are diversified. We are the largest cargo airline and we want to continue that way. That is why we are building a second cargo terminal, which will have a total capacity of accommodating 1.2 million tonnes of cargo per annum. This will put our cargo terminal on the global map alongside Hong Kong, or Schiphol in Amsterdam.”



Ethiopia is planning a new international airport, south of Addis Ababa, at a lower altitude. Addis Ababa is among the highest in the world, which puts the airline at a competitive disadvantage. “Emirates can fly from Dubai to San Francisco nonstop. We cannot fly nonstop from Addis Ababa to Washington DC with the same aircraft and are forced to make a technical landing in Dublin just because of the altitude,” Tewelde explained.

Ethiopian remains a government-owned airline but that causes no problem for Tewelde. “A dominant opinion is that a state-owned enterprise does not succeed as much as private ones. We don’t agree, because ownership by itself and on its own is not a determinant factor for success or failure. As long as ownership and management is separated in the corporate governance of the enterprise, I do not think government ownership is a problem as long as it is properly managed. There are successful state-

“We have a strong brand...and we better understand customer needs and the market situation.”



Cargo is growing in importance to Ethiopian.

owned companies in the east in Malaysia, China, and Singapore. ZTE in China and Petronas in Malaysia are state-owned companies.

“Many African governments did not manage their airlines properly. Air Afrique was owned by 11 countries in west and central Africa.

Ghana Airlines was a successful airline in its own time. Nigeria Airways was a successful airline. East African Airlines was a multinational airline but, again, the separation of ownership and management was not clearly defined and, as a result, they failed.”

Ethiopian has been building pan-African hubs, the first being Lome and Lilongwe through Asky and Malawi Airlines. It is now in discussions with Rwanda, Uganda and Mozambique. Tewelde has also floated ideas for an airline in the great lake region.

“I made that proposal mainly to Zambia,” Tewelde said. “They are working to revive their national airline, which was a big airline years ago. I told them that, since the airline industry is volume driven, the economies of scale are very important. It will be very difficult for an airline to operate with one or two aircraft with a small-scale operation. I would see Zambia, Zimbabwe, Malawi, Botswana and Namibia putting their resources together and establishing a big airline with one or two hubs in southern Africa. We can support them with all our experience and resources. We can train their pilots and technicians and help manage. We can support them as a strategic partner. We can also feed them passengers and connect them to our 92 destinations on five continents – that is a huge

advantage for them. They liked the proposal but have not given us an official response.”

Unsurprisingly, the threat of the Gulf carriers and Turkish Airlines is still high on Tewelde’s agenda. “We have always been exposed to competition – 65% of our traffic is connecting in Addis Ababa. That, by itself, shows you how competitive it is.

“The Gulf carriers, which have successful business models, are growing fast. It is a competitive challenge for us.

“Our Star Alliance partner, Turkish, is also growing very fast in Africa. In the alliance, you have cooperation and you have competition at the same time. With Turkish the competition is much larger than the cooperation. We compete head-to-head in most African countries. They fly to 40 destinations, but as a pan-African airline we are well established and have better understanding of the customer demand. We have a strong brand; we served Africa for many years. And we better understand the customer needs and the market situation.”



Tewelde said he is proud to see Ethiopian Airlines flying to five continents. “Los Angeles is our furthest point in the west; Stockholm in the north; Sao Paulo in the south and Tokyo our furthest point east – 92 destinations stretching all over the world is a special pride for any Ethiopian,” he said.

“Going forward, I want to see Ethiopian Airlines playing a major role by connecting Africa with India, China and Brazil. If you draw a direct line from India or China to Brazil, the Ethiopian Airlines route is the shortest. China, with a population of 1.3 billion, is our strong market and it is a major trade partner of Africa.

“I want to see the airline as a company with \$10 billion turnover and multiple hubs in Africa. We have to be ready for this in terms of infrastructure, human resources, fleet and system development. It is very challenging but it is doable.”

Ethiopian’s growth spurt

In 2004 Ethiopian’s annual turnover was \$390 million. In 2015 it closed with \$2.4 billion revenue. In terms of passenger traffic it grew from a million in 2004 to 6.3 million last year.

The number of aircraft grew from 21 to 76. Cargo traffic has grown from 42,000 tonnes to 330,000 tonnes. Last year the airline made \$175 million net profit.

Kaleyesus Bekele *looks back over the 70-year history of Ethiopian Airlines*



The Douglas DC3 was the mainstay of the early Ethiopian fleet.

Emperor who fathered an airline

The late king, Emperor Haile Selassie, is considered to be the father of aviation in the Ethiopia. It was he who imported the first aircraft to the country in the 1930s.

He also established the Ethiopian Air Force in the 1940s after the Second World War, in collaboration with the Royal Air Force of Sweden.

The Swedes had wanted to partake in the establishment of an airline for Ethiopia but, for some reason, the emperor chose the Americans, entering into an agreement with the US-based airline, Trans World Airlines (TWA), to jointly establish a national flag-carrier for Ethiopia.

The national airline was set up as Ethiopian Air Lines Inc in 1945 with five US Air force surplus C47 aircraft. The airline made its maiden flight to Cairo via Asmara in a Douglas C-47 Skytrain on April 8 1946.

Following the Cairo success, regular weekly flights began to Djibouti and Aden, as well as a domestic service to Jimma town.

Since the aircraft were ex-US military, they had few comforts: all had folding bench-type canvas seats along the sides, with the central aisle kept clear so that cargo could be lashed to the floor.

In the 1950s, the airline bought relatively comfortable aircraft with forward-facing seats,

opened more routes in Africa and launched the flights to Europe.

In 1957, the national training centre was established and the first Ethiopian commercial aircraft commander, Captain Alemayehu Abebe, made a solo flight on DC-3\C-47 aircraft. He had been transferred from the Ethiopian Air Force.



Three-quarters of the airline staff were Ethiopians but American personnel held key positions until the 1960s, when the government renegotiated with TWA with the ultimate aim of operating entirely with Ethiopian personnel.

In 1962, Ethiopian Airlines joined the jet age by acquiring the Boeing B720 aircraft, the first African airline to own and operate that type. The airline also moved to its existing headquarters at Addis Ababa Bole International Airport.

The first Ethiopian CEO, Colonel Simret Medhane, was appointed in 1971 heralding the replacements of all expatriates by local staff. Medhane came from the Ethiopian Air Force.

In the wake of the 1974 socialist revolution that ousted Emperor Haile Selassie, the airline had a tough ride. The country was embroiled in a

protracted civil war and the intervention of the military regime into the airline's management in the early days of the revolution adversely affected its growth. Tourist flows dwindled and foreign investment came to a halt. The management of Ethiopian Airlines, led by Captain Mohammed Ahmed, fought hard to maintain the airline's independence.

Officials of the military junta insisted that Ethiopian Airlines should stop acquiring western-built jets (Boeing Aircraft) and start buying Soviet-made Antonov aircraft. However, the management refused and continued ordering Boeing jets. Ahmed reportedly convinced the then president, Colonel Mengistu Hailemariam, why the airline needed Boeing aircraft.

Ethiopian Airlines attracted worldwide attention on June 1 1984 when its first Boeing 767 landed at Addis Ababa Bole International Airport after a thirteen-and-a-half hour delivery flight from New York – setting a world distance record for a commercial twin engine jet.

Despite the political turmoil at home, the airline expanded its operation in Africa, Europe and Asia.

Following the downfall of the military regime in 1991, the country enjoyed peace and prosperity. Tourist flows and investment revived, creating favourable conditions for the airline to grow. However, there was a management shake-up during the transition period that forced a number of senior personnel to leave.

It did not take long for the new government to realise the importance of maintaining the independence of the management and the airline enjoyed a period of relative calm – except for the two-year border war in 1998-2000 with neighbouring Eritrea, when it sustained a loss.

Ethiopian Airlines began to grow fast in 2005, when it started

Continued on Page 30

The world distance record for a commercial twin-engine jet was set by Ethiopian's first Boeing 767.



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CONTINUED FROM PAGE 28

implementing Vision 2010, a five-year development strategy aimed at making the airline a one billion dollar company.

In 2005, the airline had only 21 modern jetliners (B767, 757 and 737) and seven propeller aircraft (five Fokker50s and two DHC-6s). It flew to 50 destinations, carried 1.7 million passengers and had an annual turnover of \$600 million. In the same year, the national flag-carrier became the first African airline to place firm orders for 10 B787 Dreamliners valued at \$1.5 billion at that time. With the Vision 2010 strategy, the airline grew its annual revenue to more than \$1 billion in 2010.

The management believed that the airline could grow fast. “For us, growth is not a luxury, it is rather a matter of survival,” said CEO Tewolde Gebremariam. “You need to have the minimum critical volume to survive and grow. If we do not grow fast, the mega international carriers would swallow us. Or we would be a small regional airline. So we decided to grow fast.”

Ethiopian faced stiff competition from the Gulf carriers and other international airlines, like Turkish Airline, in its stronghold African market. It extended its wings to North America, South America and the Far East. The airline connects Africa with Canada, the USA, Brazil and Japan. It also expanded its operation to Europe and the Middle East.



To withstand the growing competition, the airline decided to implement a fast, profitable and sustainable growth strategy. Accordingly, the management drafted a 15-year development roadmap, dubbed Vision 2025. Tewolde and former CEO, Girma Wake, are the architects of the strategy.

Vision 2025 aims at transforming the airline into an aviation group consisting of seven profit units – Ethiopian international service, Ethiopian domestic service, Ethiopian Cargo, Ethiopian MRO, Ethiopian Aviation Academy, Ethiopian Catering, and Ethiopian ground-handling. The group will have an annual turnover of \$10 billion by 2025.

According to the strategy, the airline will transport 20 million passengers, 820,000 tonnes of cargo, serve 90 international destinations, and operate 120 aircraft. The management has been compelled to revise the roadmap as it has already achieved some of the targets. For instance, the number of destination has reached 92.

Today, Ethiopian is the largest and most profitable airline in Africa, according to International Air Transport Association figures released June 2014. It operates 77 modern aircraft, including 13 B787s and 15 B777s, and it received its first Dreamliner in August 2012.

The airline now has 43

A Boeing B777 freighter demonstrates a growing emphasis in cargo activities.



aircraft on its order book, including 14 A350-900s and 20 B737 MAXs. Ethiopian also became the first African carrier to order for 12 A350XWB in 2009 at the Dubai Airshow.

While Ethiopian is celebrating its 70th anniversary, it will be taking delivery of its first A350-900s in May-June 2016.

Ethiopian keeps a strong balance sheet. In the 2014-2015 fiscal year, the airline bagged a record high net profit of 3.5 billion birr (\$175 million). The airline transported 6.4 million passengers and 329,000 tonnes of cargo during the fiscal year.



In the Vision 2025 development roadmap, the airline outlined that it would implement a multi-hub strategy. Accordingly, Ethiopian invested in Asky Airline in west Africa and established its second hub in Togo, Lome in 2010.

The airline established the third hub in Lilongwe, Malawi after buying a stake in the start-up airline, Malawi Airlines, in 2013. Talks between Ethiopian and RwandAir are also ongoing to forge similar partnership in Kigali.

Ethiopian further strengthened its global network by joining the Star Alliance Group in December 2011.

The airline has been registering an annual average growth rate of 20% and, to accommodate this, it is undertaking massive expansion works. The multi billion birr expansion projects under way include the construction of a maintenance hangar, a mammoth cargo terminal, a modern catering facility and a four-star hotel.

The new cargo terminal is being built on 140,000sqm of land adjacent to the existing cargo terminal. With a capacity to handle 1.2 million tonnes of cargo per annum, the terminal will be one of the biggest in the world. The state-of-the-art fully automated facility is designed to handle perishable and dry cargo. The \$150 million project includes the construction of office buildings and an apron that can accommodate eight cargo aircraft as big as B747, as well as a car park. German company, ICM, and Italian construction firm, Varnero, are the contractors.

At the moment, Ethiopian Cargo has the capacity to handle

more than 300,000 tonnes of cargo per annum. With nine dedicated freighter aircraft, Ethiopian is the biggest cargo operator in Africa.

The other major expansion project is a new \$94 million wide-body maintenance hangar, which should be completed by the end of this year. It has two bays – one for maintenance and the second for paintwork.

Ethiopian has a modern catering facility that produces and supplies in-flight meals to the national airline and other international airlines flying to Addis Ababa.

To meet the growing demand of the national airline and expand its service to other carriers, Ethiopian is building a new \$11.5 million two-storey catering facility, which will have the capacity to produce 80,000 meals a day.

In addition, the Ethiopian Airlines Group is building a four-star hotel on 40,000sqm of land near its headquarters. The hotel will have 330 rooms, restaurants and bars, a gymnasium and other facilities. The Chinese aviation and construction firm, AVIC, is undertaking the construction work, which should be completed within 24 months.



Ethiopian spent more than \$100 million to expand its aviation academy, which trains pilots, aircraft technicians, flight attendants, cargo agents and marketing officers. The airline built auditoriums, a dormitory, and administration office buildings and has equipped the academy with trainer aircraft, flight simulators, and two cabin crew training mock-up aircraft. On February 7 2015, Ethiopian Prime Minister, Hailemariam Desalegn, inaugurated the academy’s expansion project.

Tewolde said that the inauguration of the academy was the happiest moment for all of the Ethiopian Airlines management. “It is a marvellous facility in the continent of Africa,” he said, adding that the academy belongs to all Africans. “Gone are the days when African countries send their children long distances for training.”

He said the expansion project enables the aviation academy to increase its student annual intake capacity from 200 to 4,000. “The expansion projects are the pillars of Vision 2025.”

The prime minister said that the aviation academy puts Ethiopia ahead in aviation technology advancement, adding that Ethiopian Airlines was a pride of the nation.

The inauguration of the academy was the happiest moment for all of the Ethiopian Airlines management.

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LES TARIFS DE LA DISCORDE A LA RÉUNION

Le ministre français de l'Économie a saisi la Direction générale de la concurrence, de la consommation et de la répression des fraudes (DGCCRF) pour demander des « clarifications » à Air France, Air Austral et Corsair sur leurs récentes pratiques tarifaires vers l'île de La Réunion. Une enquête de Vincent Chappard.

La santé des compagnies aériennes est un élément capital en Afrique et dans le monde dans le développement de l'industrie aéronautique. Les résultats financiers des compagnies aériennes ont connu une belle embellie avec la baisse du prix du pétrole. Avec le prix du baril divisé par trois depuis deux ans, les tarifs aériens devraient baisser.

Rappelons que le coût du kérosène représente 35% des dépenses d'une compagnie aérienne.

En février dernier, Thierry Robert, député de La Réunion, a fait remarquer au ministre français de l'Économie, Emmanuel Macron, une curieuse coïncidence : l'augmentation « de manière quasi-simultanée » des tarifs d'Air France, d'Air Austral et de Corsair sur l'axe Paris/La Réunion et une supposée « forme d'entente » entre elles.



Le ministre de l'Économie a indiqué que ces « comportements tarifaires » n'étaient pas justifiés au moment où les compagnies, qui maintiennent une surcharge carburant, bénéficient de la baisse des prix du pétrole. Il a donc demandé des clarifications sur les pratiques tarifaires, non seulement sur La Réunion mais également sur d'autres liaisons.

Air France, Air Austral et Corsair ont vivement réfuté ces accusations « d'entente tarifaire » sur l'axe Paris/La Réunion.

Soulignons que l'ensemble des compagnies aériennes peaufinent leur budget et procèdent à des réajustements tarifaires au début de leur exercice financier.

Air France a indiqué avoir augmenté ses prix le 22 janvier 2016 (de 20 euros en basse saison et de 30 en haute saison) en raison du niveau élevé de remplissage des vols sur cet axe. Air France n'avait plus augmenté ses tarifs structurels depuis 2014 sur cette ligne. Corsair a également appliqué une hausse tarifaire modérée (20€ en basse saison et 30€ aller-retour en haute saison en classe économie) sur l'ensemble de sa grille tarifaire début janvier 2016. Air Austral a aussi procédé à la réévaluation de sa grille tarifaire sur l'axe La Réunion/Paris s'agissant des tarifs de la classe économie.

L'axe Paris/La Réunion est un marché ultra



L'aéroport de La Réunion.

Les taxes aéroportuaires à La Réunion

En 2013, l'aéroport de La Réunion a publié un rapport détaillant les taxes et les redevances payées par le passager.

On y trouve la taxe aéroportuaire, la redevance passager, la taxe d'embarquement (en vigueur à La Réunion), la taxe de l'Aviation Civile, la taxe de solidarité (dite taxe « Chirac ») et enfin la surcharge de la compagnie aérienne.

Si l'on prend un billet (aller/retour) Paris - La Réunion, le montant des taxes est de 366,76€ sur un coût total de 1010,76€. Le montant réellement perçu par l'aéroport de La Réunion est de 26,68€, soit 7% des taxes aéroportuaire et 2% du prix du billet.

concurrentiel où les compagnies s'observent et s'alignent pour maintenir leur compétitivité. La pression sur les prix est très forte et la politique tarifaire doit s'adapter en permanence en fonction de l'offre et de la demande. Il faut rappeler que le prix d'appel sur cet axe a baissé de 180€ entre février et novembre 2015.

Comment expliquer cette hausse tarifaire alors même que ces trois compagnies bénéficient des effets positifs de la baisse du prix mondial du pétrole ?

Selon Air Austral, « l'augmentation des tarifs reflètent la nécessité pour la compagnie de se réajuster par rapport à une progression de ses

coûts et une baisse de ses recettes unitaires. Si 30% de ses coûts correspondent à l'achat du kérosène, les 70% qui restent sont eux en progression (maintenance, loyers des avions et handling). 60% des dépenses sont réalisées en dollars qui par rapport à l'euro s'est surenchéri de près de 18% ». La compagnie réunionnaise tient à préciser sa politique de promotion. « Si 10% de nos tarifs étaient en dessous de 800 euros en 2011, 40% le sont en 2015 ».

Le porte-parole de Corsair explique pour sa part que « la hausse tarifaire appliquée sur l'axe France-La Réunion correspond à un réajustement nécessaire pour restaurer des

SUMMARY

LA RÉUNION PAYS THE PRICE OF TARIFFS

marges détériorées depuis de nombreuses années. L'impact de la baisse des coûts du carburant reste modérée car la baisse du baril ne se reflète que partiellement en raison des couvertures carburant (hedging) et du renchérissement du dollar par rapport à l'euro. 70% des coûts sont en augmentation et en particulier les taxes d'aéroport (voir encadré), la maintenance et les loyers des avions ».



Au-delà des déclarations politiques, la réalité du transport aérien est tout autre. Même s'il est légitime pour le voyageur de demander une baisse des tarifs lorsque le prix du baril recule, cet élément n'est pas le seul à déterminer le coût d'un billet. On devrait davantage revoir les taxes aéroportuaires, le hedging et la pratique de la surcharge carburant des compagnies.

The French Minister of Economy has called for "clarification" from Air France, Air Austral and Corsair on their recent pricing practices on flights to and from Reunion Island, reports *Vincent Chappard*.

The three airlines have been pulled up due to a simultaneous rise in fare prices on their Paris-Reunion route.

The minister, Emmanuel Macron, questioned the simultaneous price rise, suggesting some form of agreement might have been reached – a point that was backed by Thierry Robert, MP for Reunion.



Macron said that this "tariff behaviour" was not justified, due to companies that maintained a fuel surcharge benefitting from lower oil prices at the time. He asked for clarification on the pricing practices from the three carriers, who have, in turn, refuted the claims.

"With oil prices declining by a third over two years, and making up 35% of airline expenses, carriers have had significant financial improvement and fares should fall," said Macron.

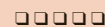
Air France has said it increased its prices on

January 22 2016 because of the high level of filling on the route. The fare had not been increased since 2014.

Corsair also implemented a moderate price increase in early January 2016.

Air Austral adjusted its grid tariff for an economy class ticket.

Air Austral said: "Rate increases reflect the need for the company to adjust in relation to an increase in costs, and a decline in unit revenues. If 30% of its costs are for the purchase of kerosene, the remaining 70% are spent on maintenance, aircraft rental and handling."



Similarly, Corsair said: "The price increase applied on the axis France-Reunion represents a necessary adjustment to restore margins that have deteriorated for many years.

"The impact of lower fuel costs remained moderate as lower per barrel costs only partially come into consideration due to fuel hedging and the rise in the dollar against the euro.

"Around 70% of costs are increasing, including airport taxes, maintenance and rental of aircraft."

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Victoria Moores *meets the new African Airlines Association (AFRAA) president and bears a blunt message about the continent's aviation industry.*

AFRICA'S ACTION MAN

Air Zimbabwe acting CEO, Edmund Makona, has strong views about what he wants to achieve during his year's presidency of the African Airlines Association (AFRAA).

"We have to take AFRAA to the next level. This is what I believe. Only a fool does the same thing and expects a different result," he said.

According to the International Air Transport Association (IATA) December 2015 forecast, Africa is expected to deliver a £100 million (\$139 million) net loss in 2016. As far as Makona is concerned, this is simply not good enough.

"There are only a few of us that are above water but the rest are drowning," he said. "The question is how to we bring them to the surface? How do we bring in policies which will rescue aviation today?"

African airlines have tried – and failed – to stop foreign airlines from eating up their market share and Makona believes time is now a crucial factor. "There is one link that we continue to miss. This is the issue of speed. We need to get into a culture of doing things today. It is time for action," he said.

The new AFRAA president's message is clear: Less talking, more doing. But the way it is being done must also change. "We are being too ambitious. Without a phased approach, we will miss our targets."

Makona believes African airlines need to moderate their lofty ambitions and replace the

last-minute dash to hit objectives with continually assessed progress towards defined goals. He is a big fan of carefully implemented, results-based management.

"We have to bring something new to the party. We need to change the way we do business. It's only when you change that you get a different result. In evolution, the species that survive are not the fittest, they are the ones most adaptable to change," Makona said.



The gap between where Africa's airlines are, and where they want to be, needs to be identified and turned into a strategy. And the implementation of that strategy needs to be synchronized across the continent.

"Aviation companies don't seem to be synchronized, but it is getting better. The issue is not only collaboration and seeing things with the same perspective, it's synchronization. We don't only work together, we also lag together.

We need to be propelled," he said.

While all of the continent's aviation players have a common objective to tame Africa's huge traffic potential, duplication and fragmentation are real barriers to progress. This cannot be sustained. "The problem is global, the solution is global, so we need to be global in our approach. When everybody –

including big and small players – is viable, we will all be sustained. It is an ecosystem. We need a systematic approach."

One core part of this ecosystem is safety. If the industry is unsafe, it cannot be viable. "We all share the need to be safe and profitable. No airline can be deemed profitable if it is unsafe," Makona said. Again, airlines need to assess where they are, and where they want to be. They need a new vision, fresh conviction and a culture of "shared selfishness", where companies look after their own interests together.

"When the vision is not clear, you achieve nothing. When you don't know where you are going, you are not lost, because any road is the right one," said the AFRAA president. Makona agrees that while substantial progress has been made on safety, there is still more to be done and perception remains a huge sticking point.

Meanwhile, African governments are stifling the industry with taxes. "Please don't kill the golden goose," Makona said. In 2014-15, taxation rose by 7.2%, costing the industry an extra \$125 billion. He described this "tax mutation" as hugely damaging to the low-margin airline business.

The real effect of this levy on the industry needs to be assessed through hard figures. "We need data to see whether it is more or less negative than we think," Makona said.

Zimbabwe is already accelerating its processes to make private airlines more viable and Makona called on the other African heads of state to follow this example, mirroring the increasing synchronicity between airlines. "Restoring the viability of African airlines is a

"There is one link that we continue to miss. This is the issue of speed. We need to get into a culture of doing things today. It is time for action."
EDMUND MAKONA



key way to achieve the Agenda 2063 strategy,” he said.

Agenda 2063 is a 50-year blueprint that calls on Africa to do things “very differently” and take “significantly more action” to realize its full potential, according to the African Union (AU). The aim is to create an integrated, prosperous and peaceful Africa, which is globally competitive and driven by its people.



“Agenda 2063 is an approach to how the continent should effectively learn from the lessons of the past, build on the progress now under way and strategically exploit all possible opportunities available in the immediate and medium term,” the AU said. In practical terms, Agenda 2063 is a rolling plan, covering 25 years, 10 years, five years and short-term action plans.

The main asset of Agenda 2063 is people. In

Makona’s words: “Take all my resources, but leave my people, and I will build another fort.”

Likewise, the most important element of the AFRAA Annual General Assembly (AGA), to be held in Victoria Falls, Zimbabwe, on November 20-22, this year, is human interaction. In his usual charismatic style, Makona made the invitation to visit his “magnificent” country very personal.

“We promise to offer nothing less than the best,” he said, before breaking into song on stage at the November 2015 AFRAA AGA in Congo Brazzaville. “Beautiful Zimbabwe, beautiful Zimbabwe, we shall ever remember beautiful Zimbabwe.”

He concluded: “What is most important is that we continue to ignite the vision of AFRAA to be a leader in the development and growth of a globally competitive African aviation industry. This is a vision that is now being ignited, as we move into a new era where everything is done yesterday.”

SOMMAIRE

Le président de l’AFRAA en toute transparence

Victoria Moores a rencontré le nouveau président de l’AFRAA qui livre un message franc et direct sur l’industrie du transport aérien en Afrique.

Edmund Makona, le PDG par intérim d’Air Zimbabwe, a des avis bien tranchés sur ce qu’il compte faire au cours de sa présidence au sein de l’AFRAA. « Nous devons hisser l’AFRAA à un niveau supérieur ».

Selon les prévisions de l’IATA publiées en décembre 2015, l’aviation en l’Afrique devrait enregistrer une perte nette de 139 millions de dollars. Pour Edmund Makona, cette situation n’est guère satisfaisante. « Seulement quelques-unes parmi nous ont la tête hors de l’eau, mais le reste boit la tasse. La question majeure est de trouver une politique et des mesures appropriées pour sauver notre aviation ».

Les compagnies aériennes africaines ont essayé de freiner la progression des compagnies aériennes étrangères mais sans succès. Edmund Makona pense qu’il y a un réel besoin d’agir plus et rapidement. Nous sommes également trop ambitieux. Sans une approche progressive, nous allons manquer nos objectifs ».



Selon lui, l’aviation africaine doit changer sa façon de faire du business, définir des objectifs précis et les réaliser à travers une stratégie et une gestion judicieuse et durable. Les acteurs du secteur doivent réunir leurs compétences et leurs forces pour progresser et profiter du fort potentiel du trafic aérien.

Une composante essentielle reste la sécurité. « Si notre industrie n’est pas sûre, elle ne peut pas être viable. Même si des progrès substantiels ont été réalisés, on doit réfléchir de manière globale et adopter une nouvelle vision. »

Les gouvernements africains étouffent l’industrie du transport aérien avec des taxes. Entre 2014 et 2015, la fiscalité a augmenté de 7,2% soit un surcoût de 125 milliards de dollars pour l’industrie en Afrique. Selon Edmund Makona, « cette mutation fiscale est extrêmement préjudiciable face à des marges déjà faibles ».

L’Union africaine a bâti un « agenda 2063 » reposant sur différents plans. Le but est de créer une Afrique intégrée, prospère et pacifique, qui soit globalement compétitive et animée par son peuple.

Edmund Makona souhaite s’inscrire dans cette dynamique. « Rétablir la viabilité des compagnies aériennes africaines est le moyen le plus efficace pour réaliser cette stratégie. » La prochaine assemblée générale de l’AFRAA se tiendra à Victoria Falls les 20, 21 et 22 novembre 2016. D’ici là, Edmund Makona s’attèlera à porter sa vision de l’AFRAA vers une nouvelle ère.

Mauritania Airlines International is looking to expand its fleet and develop its network, after joining both the Arab Air Carriers Organisation (AACO) and the African Airlines Association (AFRAA) in 2015. Victoria Moores reports.

More and more from Mauritania

«Mauritania Airlines au plus haut » – Page 38

State-owned Mauritania Airlines International launched operations from its Nouakchott base on May 1, 2011, replacing Tunisair joint-venture carrier Mauritania Airways.

The latter airline had started operations in November 2007, itself succeeding national carrier Air Mauritanie, and had built up a small fleet of ATRs and Boeing 737s.

But Mauritania Airways ultimately followed the same path as Air Mauritanie and ceased operations in December 2010.

Under the leadership of CEO, Mohamed Radhy Ould Bennahi, Mauritania Airlines International has grown to 240 staff and expanded its fleet to four aircraft, three Boeing 737s – one -700 and two -500s – and a single Embraer ERJ-145.

“We want to phase out the two -500s before the end of 2016.”

Mauritania Airlines International financial director Mohamed

Continued
on Page 38



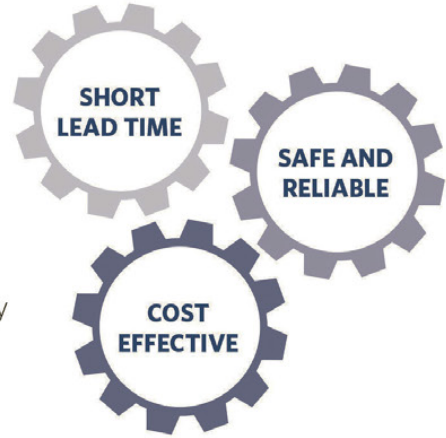


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2nd African Ground Handling International Stakeholders' Conference
14-16 June 2016, Emperors Palace, Johannesburg



CONTINUED FROM PAGE 36

Lemine Ould Mohamed Vall said. "We will bring in two -800s to replace the -500s."

One of the two 737-800s will be added in 2016 and the second will arrive before 2020. Like its existing 737s, the new aircraft will be configured with two classes.

The carrier is also seeking an additional ERJ-145, which would be used to perform domestic flights and boost its regional fleet. Mauritania Airlines International is already in negotiations with Boeing and Embraer over the aircraft purchases.

Currently, the carrier serves Abidjan, Bamako, Banjul, Casablanca Conakry, Dakar, Las Palmas, Paris Charles de Gaulle and Tunis. The additional aircraft would be used to build up frequencies and to add a new service to Jeddah.



Its network has been further strengthened through special purchase agreements (SPAs) with Air France, Asky, Emirates, Ethiopian Airlines, Royal Air Maroc, Saudi Arabian Airlines, Senegal Airlines and Tunisair. Ould Mohamed Vall said the next step would be to establish codeshares with airline partners.

To help this process, Mauritania Airlines International has been working to secure International Air Transport Association (IATA) Operational Safety Audit (IOSA) certification and underwent the audit in June 2015. At the time of writing, the airline was awaiting the final rubber stamp. Once this has been secured, it is hoping to become an IATA company and is seeking participation in the IATA clearing house.

Mauritania Airlines International secured an historic boost when the country became the first to be removed from the European Commission air safety list, more commonly known as the 'EU blacklist', in December 2012.

The European Commission originally banned

the country's former national carrier, Mauritania Airways, due to "persisting deficiencies regarding the operations and maintenance of the air carrier". All other airlines certified in the country were also banned because of oversight deficiencies. However, following "exceptional progress" by the local authorities and safety advancements in the country, the ban was ultimately lifted.

In its latest EU air safety list update, issued in December 2015, the European Commission lists 230 airlines that are banned from operating into

the European Union. One body, which has been very outspoken in its objections to the blacklist, is AFRAA.

As part of its development plans, Mauritania Airlines International joined the association on July 27, 2015, after being accepted as a member during a meeting of the body's executive committee in Nairobi, Kenya.

This was followed by the carrier securing AACO membership, which was confirmed during the association's annual meeting in autumn 2015.

SOMMAIRE

MAURITANIA AIRLINES AU PLUS HAUT

La compagnie Mauritania Airlines International cherche à étoffer sa flotte d'avions et développer son réseau après son adhésion à l'AACO et l'AFRAA en 2015. Une enquête de Victoria Moores.

La compagnie nationale d'état a lancé ses opérations depuis Nouakchott le 1er mai 2011, succédant successivement à Mauritania Airways et à Air Mauritanie. Ces deux compagnies défuntes avaient constitué une petite flotte d'ATR et de Boeing 737.

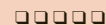
Sous la direction de son directeur général, Mohamed Ould Rady Bennahi, Mauritania Airlines a augmenté ses effectifs et a élargi sa flotte à quatre avions (3 B737 et un ERJ-145).

« Nous voulons retirer deux B737-500 avant fin 2016 pour les remplacer par deux B737-800 », a déclaré Mohamed Lemine Ould Mohamed Vall, directeur financier de la compagnie.

Le premier B737-800 sera livré en 2016 et le second avant 2020. Ils seront configurés avec deux classes.

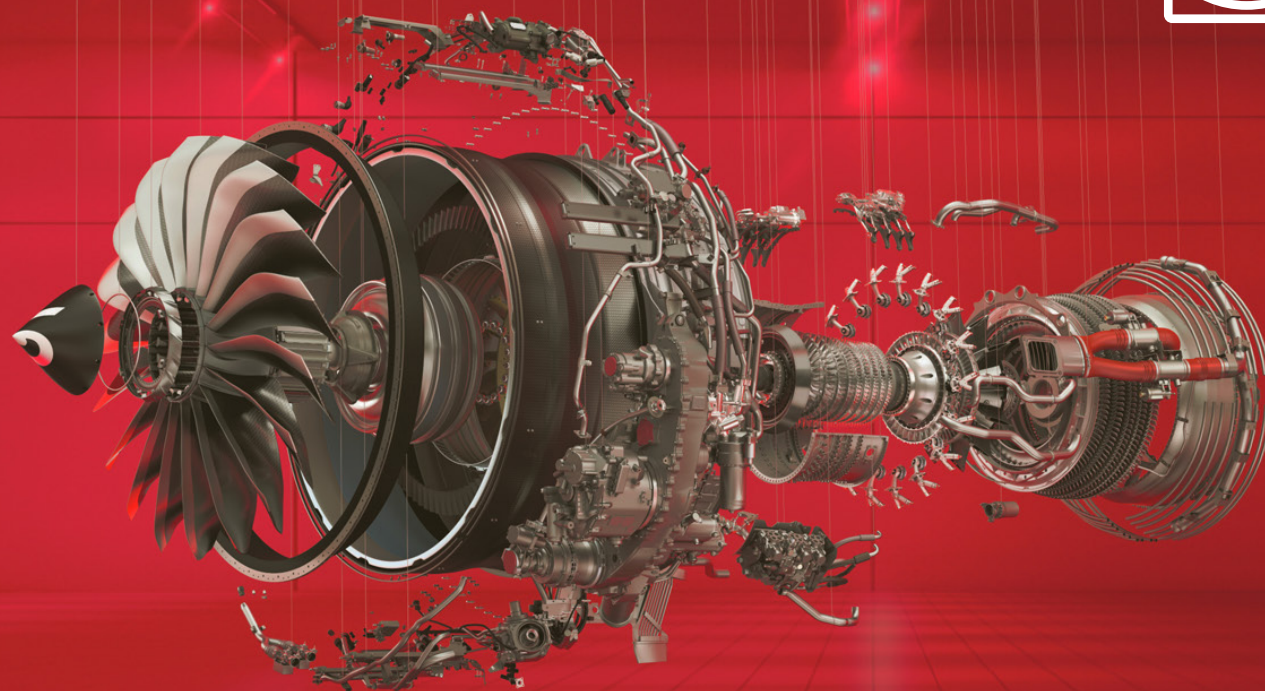
La compagnie recherche également un ERJ-145 supplémentaire pour effectuer des vols domestiques et consolider sa flotte régionale (augmentation des fréquences et une nouvelle route vers Djeddah). Elle dessert actuellement Abidjan, Bamako, Banjul, Conakry Casablanca,

Dakar, Las Palmas, Paris Charles de Gaulle et Tunis. Son réseau a été renforcé via des accords de type « SPA » avec Air France, Asky, Emirates, Ethiopian Airlines, Royal Air Maroc, Saudi Arabian Airlines, Senegal Airlines et Tunisair. Selon Ould Mohamed Vall, « la prochaine étape est d'établir des partages de codes avec les compagnies aériennes partenaires ».



Pour faciliter ce processus, Mauritania Airlines International travaille avec l'IATA pour sécuriser sa certification IOSA. Au moment où le magazine allait sous presse, la compagnie aérienne attendait la validation du document final.

Une fois la certification acquise, elle souhaite faire partie de l'IATA. Mauritania Airlines a obtenu un coup de pouce historique depuis que la Mauritanie a été retirée de la liste de sûreté de l'UE en décembre 2012 suite à des « progrès exceptionnels de la part des autorités locales et sur le plan de la sûreté ».



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MORE TO BELIEVE IN

EgyptAir braced for

The bombing of a Russian charter flight over the Sinai Peninsula has thrown Egypt's tourism sector into yet another existential crisis. Sherif Fathy, EgyptAir's chairman, tells Martin Rivers how the flag-carrier is responding.

Egypt's all-important tourism sector has been dealt successive blows since the 2011 Arab Spring uprisings, with repeated waves of political unrest warding off foreign visitors.

The country's tourism revenue is expected to have fallen below \$7 billion in 2015 – a far cry from the \$12.5 billion raked in during the year before the revolution.

Flag-carrier EgyptAir has been front and centre of the downturn, sinking about \$1.5 billion into the red since 2011 as holidaymakers turned to perceived safe-havens elsewhere in the region. The airline's fortunes had seemed to be rising in 2014/15 but were derailed again in October when a charter flight operated by Russia's Metrojet crashed in the Sinai Peninsula.

Intelligence agencies from Russia and the west have concluded that a bomb planted by the Daesh terror group brought down the Airbus A321, killing all 224 passengers and crew.

Daesh itself has also claimed responsibility for the atrocity, boasting of its ability to penetrate security at departure point Sharm el-Sheikh International Airport.



Although Cairo continues to deny evidence of terrorist involvement, few would-be tourists are listening. Visitor numbers to Sharm el-Sheikh collapsed by about 85% in the aftermath of the disaster, with European operators heeding travel advisories and pulling out of the resort en masse. Russia went a step further, banning all EgyptAir flights from its airspace.

Navigating the crisis has become priority number one for Sherif Fathy, the flag-carrier's chairman and chief executive, who was appointed just two months before the crash with a mandate to restore profitability at the ailing company.

"We don't know yet whether there is going to be a strong impact from this unfortunate incident on our scheduled business out of Cairo," he said during an interview at the African Airlines Association Annual General Assembly in November. "We don't know. We hope not."

Government officials have, in the past, premised EgyptAir's turnaround efforts on a wider resurgence of the domestic economy. That was certainly the case in 2013, when the then-civil aviation minister Abdel Aziz Fadel predicted an upturn in demand following the events that

EgyptAir lands in a fine mess

EgyptAir has been fined \$140,000 by the US Department of Commerce's Bureau of Industry and Security (BIS) for leasing aircraft to Sudan Airways, in breach of sanctions against the African nation.

The fine followed an investigation triggered by EgyptAir leasing two Boeing 737-500s to Sudan in 2010-11, an arrangement that the US Government said broke the US Export Administration Regulations. The BIS said that the lease was effectively a re-export of US airliners.

Sudan has been under sanctions since 1997 because of its alleged support of terrorism and human rights abuses. Sudan Airways has increasingly struggled to maintain services in recent years and has had to lease in capacity to keep flying. The fleet's composition changes regularly but last summer consisted of two Airbus A300-600s and a single Boeing 737-500.

At the Arab Air Carriers Organization annual meeting in Doha in November 2013, Sudan Airways general manager, Abd Elmahmoud Suliman Mohamed, detailed the problems faced by his company: "It's difficult to find people who can work with you. We find difficulties in funding from the international financial community. There are difficulties in even transferring simple sums of money."

However, he said, the US sanctions did not stop a steady trickle of international entrepreneurs or foreign companies offering aircraft: "To be frank, almost every day I receive an offer from someone. But they want financial guarantees."

Although in principle companies can apply to the BIS for licences to export aircraft to Sudan, the regulations state that these "will generally be denied".

EgyptAir must pay its fine in four instalments of \$35,000, with the last due on November 1. If it fails to do so, the BIS can issue an order suspending all the airline's re-export privileges under the regulations for one year.

brought president Abdel Fattah El Sisi to power. Speaking at the time, Fadel vowed to grow EgyptAir's 81-strong fleet to 127 aircraft by 2025 – banking on a surge in tourism as democracy was gradually restored to the country.

"The plan has changed slightly," Fathy shrugged, when reminded about the ministry's earlier forecast. "This time, it's not based on macroeconomics. It's based on detailed network planning."

Emphasising a stand-alone focus on profitability, he said management would prioritise higher frequencies on well-performing routes while adding a "maximum [of] two more points in the Far East".

Fadel's efforts to grow sixth-freedom traffic as a hedge against origin-and-destination flows are "still viable" he added, but only in the context of a wider, profit-driven strategy.

"The revenue plan will have to dictate how much sixth-freedom traffic we will target," Fathy insisted, betraying scepticism about the value of connecting flows. "You target profitability and profitability is a mix between third, fourth and sixth freedom."

Detaching EgyptAir's roadmap from the rose-tinted projections of its government owner is a prudent move given the volatile situation in Sinai, where Daesh continues to strike military and economic targets with relative impunity.

But Fathy is, nonetheless, focused on exploring "growth scenarios", arguing that EgyptAir needs to recover ground lost to regional rivals since the Arab Spring.

"We need to grow. We need to gain back certain market shares that we have lost to competition during the last few years," he said, bemoaning the flag-carrier's withdrawal from Japan and its reduced frequencies to Bangkok. European traffic has also been affected, with Lisbon, Dusseldorf and Catania all axed in 2011.



Insisting that the network contraction could have been even deeper without defensive measures by management, the chairman recalled: "There were some propositions that came by our consultants, and also by some of our team members, to close certain [other] routes in order to achieve profitability quickly. We looked at the strategic impact of the closure of these points, and we decided not to close them."

Prior to taking on the top job at EgyptAir Holding Company, Fathy spent a year-and-a-half at the helm of charter subsidiary Air Cairo.

He spearheaded efforts to diversify the company with low-cost services, launching scheduled no-frills flights from Alexandria as a complement to the Sinai-based charter operation. The strategy gave EgyptAir exposure to the fast-expanding low-cost market – described by Fathy as a "cashflow maker" – while retaining its still-profitable focus on "high-yielding" charter flights.

terror bomb impact



“We don’t know yet whether there is going to be a strong impact from this unfortunate incident on our scheduled business out of Cairo. We hope not.”

SHERIF FATHY

That feather in his cap, however, is now foremost among the group’s worries. Both of the segments that Air Cairo specialises in are heavily dependent on tourism, throwing into doubt its plans to grow from six to 20 A320s by the end of the decade.

Further afield, EgyptAir’s wider fleet modernisation programme is also now shrouded in uncertainty.

Speaking to *Gulf News* just days before the Metrojet disaster, Fathy had declared that the flag-carrier would order up to 70 aircraft in 2016 – including 15-20 wide-bodies. He quickly came to regret the announcement. “The statement was made before the shock we had tourism-wise,” he sighed. “What they have published was an estimate [for deliveries] over 10 years.”

Asked for an updated fleet plan, the chairman

said management were finalising new proposals for the government. He declined to give further details, pledging not to “repeat the mistake of [announcing] the 70 aircraft”.

Civil aviation minister, Hossam Kamal, followed up his remarks by unveiling an order for eight narrow-body Boeing 737-800s in December. At the time of writing no wide-body commitments had been announced, though EgyptAir still has an outstanding order for one A330. “We will be opening this subject with Airbus very soon,” Fathy said of that unit, indicating that future orders will likely replace the stalled delivery.

EgyptAir presently deploys 74 aircraft across the group: 12 Embraer E-170s operated by regional subsidiary EgyptAir Express; six A320s operated by Air Cairo; and 56 mixed types in the

mainline fleet (11 A330s, seven 777s, 22 737s, 13 A320-family jets and three freighters). Its average aircraft age is just under 12 years.

While it seems hard to envisage large-scale orders in the current climate, Fathy maintained that the fleet will “definitely grow” in the near future.

He claimed that the flag-carrier is “short of aircraft” after several years of downsizing and capacity cuts, adding: “You may see that we are going to go for leasing some aircraft in order to be able to cope with next summer’s traffic.”

The chairman also had an upbeat assessment of airport security in the country, accusing media outlets of sensationalist reporting in the aftermath of the Metrojet crash. “There might be some individuals [working at Sharm el-Sheikh Airport] who are maybe not performing well, but that doesn’t mean that the whole security system is asking everybody for bribes,” he said, referring to claims that the gateway’s staff are inattentive and corrupt.

“I cannot say the people who reported this are liars, or they are not saying the truth. There might be some abuses. There might be some misbehaviour. But I fly there very often and I think it [the security] is good enough.”

□□□□□

Eager to win back the confidence of foreign governments and travellers, Cairo has now hired London-based consultancy, Control Risks, to review airport security across the country.

Egypt already undergoes audits by the International Civil Aviation Organisation (ICAO), America’s Federal Aviation Administration (FAA) and the European Aviation Safety Agency (EASA). Just a fortnight after the bombing, ICAO gave the Egyptian Civil Aviation Authority and Cairo International Airport the green light under its pre-scheduled USOAP-CMA checks.

But, while that came as welcome news, it did little to mend the reputational damage already caused by the terrorists.

Along with several other African countries – notably Tunisia and Kenya – Egypt has found its tourism sector firmly in the crosshairs of a new wave of global jihadist violence. With Cairo’s efforts to downplay the threat falling on deaf ears, EgyptAir has no choice but to hunker down and brace for impact.



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Cameroon's young national carrier has called in Boeing to help it improve its performance.

Alan Dron reports.



Over the years, Africa has had more than its fair share of airlines going to the wall. A tough operating environment, high fares and immature (although expanding) local markets all make the continent a difficult place in which to achieve sustained success.

And there is now the added factor of increasing competition from major external carriers such as Etihad, Emirates, Qatar Airways and Turkish Airlines, rapidly expanding in the continent and sucking up African traffic.

Cameroon Airlines Corporation, which operates as Camair-Co, was created to replace the defunct Cameroon Airlines, which closed in 2008. Camair-Co began operations in 2011 but has struggled to become profitable.

It operates a network of services to west and central African destinations, as well as to Paris Charles De Gaulle and several domestic routes. For this it has a small fleet consisting of a single Boeing 767-300ER, two 737-700s and two newly arrived Chinese-built AVIC MA60 twin-turboprops.



Last year, the state-owned airline called in Boeing to run the rule over its operations and make suggestions to ensure its future success, with a 17-month contract starting in December.

The US company is providing consultancy services, with the work being led by Boeing Commercial Aviation Services (CAS) professional services division, commonly known as Boeing Consulting.

It is looking at two main areas: business plan support and operational assessment.

The first includes a review of the airline's strategic business plan, an analysis of current

Boeing buoys up Camair-Co

and future fleet requirements and assessment of a new network plan.

The last of these points will include the assessment of potential new routes identified by either Boeing or Camair-Co, as well as models needed to support new routes.

The primary aim is to optimise the Camair-Co network, dropping loss-making routes and identifying those that will return the airline to profitability.

The second part of Boeing Consulting's work consists of a full operational and 'health' assessment of the airline and its various divisions. Following this assessment, a plan will be developed with the airline to identify key areas of focus and develop a roadmap and implementation plan.

Boeing will then continue to work with Camair-Co on the implementation stage, ensuring key metrics are developed and followed and supporting the airline in its change management initiatives.

The plan will also assess the carrier's maintenance, repair and overhaul (MRO) capability, with a review of its existing in-house MRO facility.

Following the review, it will help to plan and build improvements to this capability.

With the consultation process only recently started, Boeing says it is too early to comment on specific problems facing Camair-Co.

However, it notes various problems common to carriers throughout the region, including the need to improve aviation infrastructure, high ticket prices for intra-African travel, high airport costs and under-utilisation of fleets.

However, while it is early days, the US aviation giant says that it has already seen a strong willingness at both governmental and airline level to work to turn the airline's fortunes around.

Throughout Boeing's contract, personnel will travel to Douala, Cameroon's largest city, for regular onsite visits and quarterly reviews.

A two-week on-site operational review has recently been completed, as has a fleet review, and by the end of February another visit had been scheduled to provide findings on these aspects of the contract.



A review of the airline's business plan and network is also being undertaken early in the consultation period and first findings are due to be shared with the airline and government representatives imminently.

Once this initial stage has been completed and action agreed, Boeing will then provide support during the implementation stage. Exactly where that support is required will be decided and discussions held with Camair-Co over what technical support Boeing can provide in order to meet that requirement.

By the end of the process, Cameroon's national carrier should have a better chance of succeeding in the African marketplace.

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Le transport aérien régional au Cameroun semble trouver un nouveau souffle avec le vol inaugural des MA60 de Camair-Co et la création d'une nouvelle compagnie régionale Camra Regional Airlines. Un reportage de **Vincent Chappard**.

DU DYNAMISME DANS LE CIEL CAMEROUNAIS

Un ambitieux projet devrait prochainement voir le jour au Cameroun. Camra Regional Airlines va en effet débiter ses opérations à partir de Yaoundé et le président de Camra Aviation Inc., Jay Vom Vadivelo affiche son optimisme.

La compagnie projette de créer une compagnie régionale « low cost » de référence. Celle-ci exploitera des avions turbopropulseurs SAAB B 340 de 34 places pour le transport des passagers et un autre appareil pour les opérations de fret.

Camra Regional Airlines compte « densifier le transport des passagers et des biens dans le triangle Douala-Yaoundé-Bafoussam ». Elle prévoit ensuite d'alimenter des lignes intercontinentales desservant la capitale grâce à un réseau reliant les trois principales villes au nord du Cameroun et s'étendre jusqu'au Gabon, la République Centrafricaine et le Nigeria.

C'est la société canadienne Camra Aviation Inc. qui pilotera la nouvelle compagnie aérienne. Son président, Jay Vom Vadivelo qui a déjà travaillé pour la compagnie Camair à Montréal, connaît bien le marché et le fonctionnement des autorités locales.



Les difficultés répétées auxquelles fait face la compagnie nationale Camair-Co ne semblent pas freiner les promoteurs de la nouvelle compagnie qui ont signé un protocole avec les autorités camerounaises.

Ces dernières s'engageraient « d'apporter les facilités d'ordre administratif nécessaires à l'accomplissement des objectifs » de la nouvelle compagnie.

Un scénario intéressant voire surprenant pour certains observateurs surtout que Camra Regional Airlines opérera sur un réseau qui correspond à celui de Camair-Co même si « ces destinations n'ont pas été desservies systématiquement par la compagnie nationale pour des raisons techniques ».

Camair-Co affiche également de nouvelles ambitions après les périodes de turbulence des dernières années.

La compagnie nationale camerounaise a loué en janvier 2016 un Boeing 737-800. Cet avion assurera la route Douala - Paris CDG ainsi que

des vols entre Brazzaville et Kinshasa. Après plusieurs reports, Camair-Co a procédé au vol inaugural de ses avions MA60 pour des dessertes régionales le 23 janvier dernier. A noter que de nombreux experts ont exprimé leurs inquiétudes en particulier de l'aviation civile camerounaise (CCAA) sur l'attribution des certificats de navigabilité des MA60. Selon des sources concordantes, il y a eu de fortes tensions entre le ministère des Transports, Camair-Co et la CCAA. Des réserves ont été émises notamment sur la sûreté des avions, les licences et la formation des pilotes pour le vol inaugural ou encore sa capacité d'assurer la MRO dans un shop dédié.

Quoi qu'il en soit Camra Regional Airlines et Camair-Co ont bien l'intention de stimuler et de conquérir un marché régional prometteur.

SUMMARY

CAMRA LOOKING FOR SNAPPY LAUNCH

Camra Regional Airlines will be beginning operations from Yaounde, with the carrier's president, Jay Vom Vadivelo, "very optimistic" about the launch, reports Vincent Chappard.

The company plans to create a regional low-cost carrier, operating a 34-seater SAAB B340 for passenger operations.

It will operate on Douala-Yaounde-Bafoussam routes, with hopes of later extending to Gabon, the Central African Republic and Nigeria.

Vadivelo previously worked Cameroonian national carrier, Camair-Co, and has a good knowledge of the local markets and dealing with Cameroonian local authorities.

Camair-Co has faced multiple challenges in the past but this has not swayed promoters of the new airline. Camra Regional Airlines has signed a protocol with the Cameroonian authorities, which promises to offer the administrative facilities necessary in order to achieve the objectives of the new carrier.

Camra Regional Airlines will be operating on a network shared by Camair-Co. However, for technical reasons, the national carrier cannot always serve these destinations.

Camair-Co has expressed new ambitions to recover from turbulent times in the past few years. It leased a Boeing 737-800 in January, which will serve the Douala-Paris route as well as Brazzaville-Kinshasa.

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*Johannesburg-based Airlink is boldly going
where few other airlines have gone before.*

Ian Sheppard met with CEO Rodger Foster to find out why.

RODGER FOSTERS THE STRONGEST LINK

Rodger Foster clearly revels in his role as CEO of Airlink, which subtly changed its brand and livery from SA Airlink some 10 years ago because “it was limiting us to South Africa”.

Based in Johannesburg, Airlink is privately owned and has developed into South Africa’s first feeder network aimed at linking the smaller towns, regional centres and hubs throughout the country.

When we met at the carrier’s offices, we soon made a plan to head for Wonderboom Airport, near Pretoria, the following day to photograph the Avro RJ-85 that Airlink operates to Cape Town. It was a good example of how the airline is intelligent and innovative – this particular route links the two capital cities of South Africa, so is ideal for politicians and businessmen, and also for tourists.

Foster explained that the carrier’s main fleet consisted of 18 Embraers (16 ERJ-135s and two ERJ-145s). “The idea is to have as much standardisation of the Embraers as possible. We like the 135s a lot, mainly because they are good in hot and high conditions – up to 5,500 feet. The 135 does a great job and is very seldom payload restricted doing our furthest destinations, around 1,200 nautical miles.”

Airlink also owns 12 RJ-85s, which were built between 1997 and 2002. “They are delightful aircraft and generate a lot of money. They are extremely capable, CAT 3B equipped, can cruise at 35,000ft and have a reasonable speed and range – for example to Madagascar. So we’re delighted with them.”

The carrier also has aircraft that are leaving its fleet, with the Jetstream 41s being phased out (from 16 to eight by November last year). “The idea is to standardise but we don’t see ourselves becoming a single type operator, because frequency is important. So the entry level is the Embraer 135 at 35 seats, allowing us to explore and grow new market opportunities. Then the

larger gauge is the RJ but, in the end, this will be another type, possibly new aircraft if we can get good prices.”

He added that the RJs represented a balance of “low capital values, thereby low fixed costs with reasonably efficient operating economics”.

“Our longer term fleet strategy is to expand by adding Embraer 140s [135LRs with a fuselage extensions]. So, in three or four years, we will have around 28 plus the larger aircraft. We expect that, between now and 2021, we’ll get another type to phase out the Avro – the older airframes first.”

Foster said Airlink was doing formal evaluations of the CRJ900, both new and used; used Embraer E-Jets, the Superjet and the Mitsubishi Regional Jet. But he admitted that these aircraft were “out of reach from our point of view – we don’t really have the market like there is in North America”.



The CEO has been in the airline business since 1992, spending most of that time bringing Airlink to where it is today.

South African Airways (SAA) is now only a 3% shareholder but Airlink still has its franchise arrangement with the national carrier. This relationship started in 1997 “and has been a success for both parties”, said Foster. “It’s the power of the network system in the multiple. We have 38 smaller destinations and do 45,000 flights a year.”

He said the company runs “almost as a family business, with good governance and a fantastic board of directors”. And, with the SAA relationship, he added: “We work very closely with their sales offices; we’re very entrenched with them and they’re very excited with what we can do.

“For example, we operate to the Okavango swamps in Botswana, which is very key to them,

and to Vilanculos [Mozambique] and the Chobe River and Kasane, etc. They can carry through Johannesburg on their metal to ours, so organically it is successful. For the future we stay committed to SAA, though we’d obviously explore links with other carriers too.”

He said that the market has changed and SAA is “no longer dominant” like it was 10 years ago. “We are paying attention to shifts in the market so SAA’s role is less significant,” he said. “Airlink sees itself as fully committed to SAA while, at the same time, we’re not going to miss out on other opportunities.”

He pointed to Emirates flying into Johannesburg four times a day and to SAA having withdrawn its services to cities such as Paris, an important source market for South Africa. “You can’t ignore the strength and reach of Air France and now KLM,” said Foster.

He reiterated that, although entrenched with SAA, Airlink was looking further and wider in Africa. It was due to start operating from Cape Town to Okavango as *African Aerospace* was going to press, and is planning to “open up Cape Town to Lusaka and Cape Town to Victoria Falls in due course”.

Foster suggested that there were lots of potentially viable routes in other Southern African Development Community (SADC) states that were desperately in need of domestic services.

He said Airlink sees itself as adventurous, while at the same time being a very cautious business too. “But bit by bit we have built the business.”

An example of an Airlink “adventure” is Skukuza, in Kruger National Park. “We actually built that airport,” he said, “and it’s short of capacity already. But it’s also a sensitive region [due to wildlife] so we can increase the gauge rather than the activity.”

The prospect of “adventuring” into other countries interests Foster very much. “It’s



Rodger Foster: "We are paying attention to shifts in the market."

something we've been looking at for a very long time." With Mozambique the airline "had to discontinue" said Foster. "But we have an air services licence there and want to reactivate [services]."

However, he admits that there are now "other competing opportunities, and there are shifting sands, so we need to be very careful".

He said that FlyAfrica's air operator's certificate (AOC) being withdrawn had destabilised the market in Zimbabwe. "We'd need to go in and become sustainable, but it takes an unbelievable amount of investment and its mostly sunken so you need to be there for the long-term."

He added that there was one market in southern Africa that Airlink was close to entering as a joint venture with a domestic airline. "I've met with the president and minister of transport of that government. We hope to get that going in 2016."

Service quality is a high priority, along with safety. "We refer to the passengers as our guests and we like to know our customers. We like to treat them as king and not just numbers.

"We know that on-time performance is of paramount importance – in 2014 we were the best, and in 2015 we're second best, while significantly better than the previous year."

He explained that some carriers have "simple business models and easier airports", so have very good performance.

As of late 2015, he said the on-time performance for Airlink was running at 92% average across all the Airports Company of South Africa Limited (ACSA) airports. "We're very proud of that."

On the economic situation, Foster pointed out: "When oil started to see maverick behaviour in 2005, it put a different spin on airlines. It has since gone from \$150 a barrel to below \$50 a barrel. It's a struggle to make sense of this in the

Continued
on Page 48



CONTINUED FROM PAGE 47

best of times... but our biggest expense is fuel... most airline cost structures were positioned at more like \$100. But the flip side is that there's a reason why the oil price is down – a global economic depression, especially in South African resources and places like Bulawayo [in Zimbabwe, produces cobalt, titanium etc] and Ndola [Zambia, produces mostly copper]. All of those micro economies are suffering. Jobs are being lost and people are travelling less."

Foster said that, despite all this, Airlink had been able to hold its own against competitors in a bleak economic landscape because "many of our assets are either denominated in a local currency financing structure or we own those assets outright [and] low fuel cost has made older assets much more viable".

The strength of the US dollar means that African carriers struggle to afford new aircraft. "Our ability to afford them is complex; with the weakening Rand, and dollar costs, fuel and maintenance cost [savings] are not enough to offset [the higher] ownership costs. So the new generation of aircraft is not affordable in terms of what you can achieve. And, at the end of the day, the consumer cannot afford to pay for it."



However, he noted that the South African middle class is "emerging and growing faster than the gross domestic product (GDP) rate".

He said that the air travel market around Johannesburg had contracted but that it had grown around Cape Town. "It's because Jo'burg used to be the only hub for the SADC," said Foster. "But now the likes of Emirates and Qatar Airways come into southern Africa and, in many cases, bypass Johannesburg to go direct. The Gulf carriers have had a major effect," he added.

In Ethiopia, too, there had been a huge change with "a concerted effort between airline, airport and the state to have a single strategy to grow Addis as a hub. Dubai started this concept 30 years ago."

In both cases this had affected Johannesburg's importance as a hub. "So, unless we have a concerted, consolidated effort here, it's not going to happen [in Johannesburg]. The industry components in South Africa are all doing different things – we need to synchronise."

The door of opportunity has been opened and Johannesburg has lost its position as "the hub of choice" said Foster, who added: "We would like



Airlink's on-time performance is running high as the airline penetrates the southern African region.

to see it being much more significant as a hub. But the shift has already happened."

With the rebranding to "Airlink" rather than SA Airlink, Foster believes it is "easier for us to permeate this sub-region".

He suggested that the brand might evolve more later, with the logo perhaps becoming "less like the South African flag". Airlink clearly feels that it has wings and wants to fly beyond its South African cage.



A unique iteration of Airlink's livery was applied to the Cessna Caravans, which serve safari destinations. "The new emphasis is on our Sunbird icon," said Foster. The bird flits-stops-flits-stops. "That's what we do... and in the future it might feature even more prominently," he hinted.

Despite everything, Foster said that SAA was a good partner to have. "It markets and sells all of Airlink's destinations; if it puts a bum on our seat it is likely to put one on its own!"

He noted that: "If you consider the whole tourism experience in South Africa, bang-for-the-buck, the value proposition is phenomenal."

The Pretoria [Wonderboom] service to Cape Town, which is a joint venture with SAA, is helping to entrench Airlink's brand. "The rationale behind this route is that Pretoria is the co-capital city with Cape Town [the legislative

capital]. Pretoria is not far as a city from Tambo [Johannesburg's OR Tambo International Airport] but has its own airport closer – Wonderboom. And the city has long aspired to having its own scheduled services, and the local government etc has been trying hard to achieve this for at least 10 years."

Foster added that the reason Airlink didn't start the route until August 2015 was because the airport had "concessed off its fuel supply". But then "due to the volume we needed" Airlink was able to secure its own concession to self-supply [via BP].

Foster said: "We're very encouraged so far – on many days all three flights are full. However, it does have peaks and troughs but we think consistency will build over time. We are committed to the venture."

He concluded that future routes from Wonderboom had "not been contemplated".

Foster said that Airlink does all its own training and has "a comprehensive Part 141 aviation training organisation (ATO) certificate" and its own simulators. It also has its "own standard operating procedures (SOPs) and instructors."

"We're involved with everything. We hold our own hand through the International Air Transport Association operational safety audit (IOSA) every second year – and we don't cut and paste from others. We create things and innovate."

Abderahmane Berthé: makes no bones about the challenges facing Air Burkina.



*Air Burkina is one of the smallest flag-carriers in Africa, and the only surviving member of the Celestair alliance. But chief executive, Abderahmane Berthé, tells **Martin Rivers** he has no intention of going the way of his former partners.*

Last man standing

«La survivante» – Page 50

Recent years have not been kind to Celestair, the grouping of small African flag-carriers established by the Aga Khan Fund for Economic Development (AKFED), an international agency based in Geneva.

The alliance, in truth, no longer really exists. Two of its official members have ceased operations since the turn of the decade – Air Mali in 2012 and Air Uganda in 2014 – while AKFED sold its shareholding in a third affiliate, Air Côte d’Ivoire, in 2013.

But the last member of Celestair soldiers on defiantly. Though small in size and almost unknown outside of its Ouagadougou base, Air Burkina, the flag-carrier of Burkina Faso, is holding its own in the notoriously difficult west African market.

The airline was established in 1967 as Air Volta, a joint venture between the Burkinabé Government and Air France.

Privatisation in 2001 saw AKFED acquire 56% of the flag-carrier, later raising its stake to 88%.

The ownership change immediately preceded the collapse of Air Afrique, the multinational pan-African carrier also part-owned by Air France. Having formerly relied on Air Afrique for its long-haul connections, Air Burkina

responded by sourcing an Airbus A319 and launching its own flights to Paris in 2004.

But its intercontinental adventure was to be short-lived. Mounting losses forced Air Burkina to abandon the Paris route in January 2011, returning to its origins as a solely regional operator.

AKFED’s expansion during the previous decade has now almost completely been rolled



back, with the flag-carrier reducing its available seat kilometres by a whopping 70% since the end of 2010.

Today, Air Burkina deploys just two Embraer E-170s to seven points in west Africa: Dakar (Senegal); Bamako (Mali); Abidjan (Ivory Coast); Accra (Ghana); Lomé (Togo); Cotonou (Benin); and Niamey (Niger).

It also operates domestic flights between Ouagadougou and Burkina Faso’s second city, Bobo-Dioulasso.

Chief executive, Abderahmane Berthé, has

held the fort since May 2013. He joined the company from Celestair partner Air Mali, which he ran for six years until its demise during the Malian civil war.

Berthé makes no bones about the challenges facing Air Burkina – a tiny player in an increasingly consolidated industry where scale trumps all.

But he believes that a combination of fleet modernisation, tight cost control, demonstrable safety excellence and opportunistic partnerships have improved the airline’s prospects during his tenure.

“It was very difficult for us [in recent years] because we had a high fuel consumption fleet and also high maintenance costs,” Berthé said during an interview at the

African Airlines Association (AFRAA) annual general assembly. “But the losses are improving since three years [ago], and we think that in 2017 we will break even.”

Re-fleeting with Embraers has been the most critical step in Air Burkina’s new restructuring programme, initiated in late 2013 following consultations between the government and AKFED.

The 2004-vintage E-170s arrived in January and May last year on lease from AerCap, having

Continued on Page 50

CONTINUED FROM PAGE 49

formerly been operated by LOT Polish Airlines.

Both units have been configured with 56 seats in economy class and 12 in business class, undercutting the type's standard capacity of 76 passengers. They replaced a pair of ageing McDonnell Douglas MD-87s.

"The main reason for this modification was to operate aircraft that are well adapted to our market and our network," Berthé explained.

"We used to operate 100-seat aircraft, and this is big for the market. With 68 seats we have the possibility to offer daily flights on some routes, or minimum four-weekly flights to all our destinations. This is preferable for our customers. They prefer that there are many frequencies."

Fuel efficiency is another key advantage over the 26-year-old MD-80s, although with crude oil prices dipping below \$30 per barrel in January the benefits will be less noticeable than in recent years.

Insisting that efficiency gains are now his top priority, Berthé said the flag-carrier has lifted utilisation rates for the E-170s to 2,600 hours per year.

Air Burkina has also streamlined its workforce, reducing the headcount from 280 three years ago to 237 today. That figure could fall further to about 220, though only through a "natural" process of attrition with retired staff not automatically [being] replaced. Berthé said he is wary of excessive retrenchment, noting that the airline secured International Air Transport Association operational safety audit (IOSA) certification in 2010 and needs adequate staffing levels to maintain the safety accolade.

With his eye firmly on rationalisation, the chief executive is also cautious when discussing fleet and network development.

"For the time being we will operate with two aircraft, and later on we will see [about the possibility] for extending to new destinations," he affirmed. "For that we would need new aircraft... It depends on the market developments in 2016."

If Air Burkina does eventually return to growth, management has already voiced a strong desire to preserve fleet homogeneity. That helps to keep maintenance and training costs low – a crucial consideration for any small airline.

Berthé speculated that the 100-seat E-170 could be a logical next step, with the higher-capacity type perhaps facilitating a resumption of flights to central Africa. Air Burkina previously served Brazzaville and Port Noire in the Republic of the Congo, as well as Libreville in Gabon.

Both countries are now on the wish-list for future network development, as is Guinea to the west.

But he reiterated that there are no imminent plans to add new destinations or aircraft.

Boosting frequencies on the current network is seen as a better path to profitability, and any eventual up-gauging will likely have to wait until the next decade.

In-line with efforts to lift the performance of existing routes, Air Burkina has signed an array of partnerships with both African and non-African carriers. Ethiopian Airlines, Royal Air Maroc, Tunisair, Dubai's Emirates, France's Aigle Azur and Brussels Airlines are among the interline partners that cooperate with the flag-carrier by synchronising flight schedules.

But it is codeshare agreements that have the greatest potential to enhance Air Burkina's niche regional operation. Last year saw the announcement of a far-reaching codeshare deal with Asky Airlines, west Africa's largest carrier. The accord covers the entire networks of both companies. "That means that we can sell on all the routes of Asky, and Asky also has the possibility to sell on all our flights in west Africa," Berthé noted.

Asky chief executive, Henok Teferra, said the partnership works well because both carriers suffer from low frequencies on thin routes, explaining: "On days when we don't operate we sell on them, and on days when we operate they sell on us."

Air Burkina also swaps codes with Nairobi-based Kenya Airways and Abidjan-based Air Côte d'Ivoire.

"If you don't believe that your airline will exist 10 years from today, then it should go today."
GIRMA WAKE

SOMMAIRE

LA SURVIVANTE

Air Burkina est l'une des plus petites compagnies nationales en Afrique et la seule survivante de l'alliance Celestair. Son directeur exécutif, Abderrahmane Berthé, a confié à Martin Rivers qu'il n'avait pas l'intention d'emprunter le même chemin que ses précédents partenaires.

Ces dernières années ont été dures pour le groupe Celestair, le groupement des petites compagnies nationales africaines établi par le fonds AKFED. Deux de ses membres ont cessé leurs activités (Air Mali en 2012 et Air Uganda en 2014) et AKFED a mis fin à son actionariat dans la compagnie Air Côte d'Ivoire en 2013. Air Burkina est la dernière compagnie de Celestair.

La compagnie opère aujourd'hui deux Embraer E-170 sur sept routes en Afrique de l'Ouest. Elle effectue également des vols domestiques entre Ouagadougou et Bobo-Dioulasso. Son aventure internationale a été de courte durée. Elle a renoncé à sa route sur Paris en janvier 2011 en raison des pertes.

Son directeur exécutif est convaincu que la modernisation de la flotte, la maîtrise des coûts, l'excellence en matière de sécurité et les partenariats opportuns pourront améliorer la santé de la compagnie sous son mandat. L'arrivée des Embraer dans la flotte a été l'étape la plus déterminante du programme de restructuration d'Air Burkina initié fin 2013.

It even struck a codeshare agreement with one-time shareholder Air France in 2012, benefiting from an allocation of seats on the latter's daily service between Paris Charles de Gaulle Airport and Ouagadougou.

The setbacks encountered by the other members of Celestair have, inevitably, prompted some to cast doubt on Air Burkina's future.

Speaking during a round-table discussion at the AFRAA meeting, Berthé raised eyebrows when he declined to state categorically that the 49-year-old flag-carrier would survive for another decade. "You are CEOs," moderator Girma Wake shot back unforgivingly. "If you don't believe that your airline will exist 10 years from today, then it should go today."

However, while Berthé chooses his words carefully and avoids making bold predictions, the chief executive has more confidence in Air Burkina than his sober demeanour suggests.

He cited AKFED's decision to re-fleet with Embraers as proof of the shareholders' long-term commitment.

"It's an investment for Aga Khan, because we need to train pilots, engineers, and to put also spare parts in Ouagadougou," he insisted. "So, if they invest in the fleet, that means they want to keep the airline."

With the Burkinabé people last year electing a new president for the first time in almost three decades, Berthé is also banking on continued political support as the flag-carrier embarks on a new era of stability and sustainability.

« La raison principale fut l'exploitation des avions (70 PAX) qui sont mieux adaptés à notre marché et à notre réseau », explique Abderrahmane Berthé. « Nous avons la possibilité d'offrir des vols quotidiens avec davantage de fréquences ».

A ce jour, il n'existe aucun plan imminent pour ajouter de nouvelles destinations ou d'avions mais cela dépendra de l'évolution du marché. Cependant, Air Burkina a signé des partenariats avec de nombreux transporteurs africains et hors du continent.

Les mésaventures rencontrées par les autres membres de Celestair ont inévitablement incité de nombreux acteurs à se douter de l'avenir d'Air Burkina. Abderrahmane Berthé reste toutefois confiant concernant les investissements et le développement de sa compagnie.

En 2015, les Burkinabés ont élu un nouveau président pour la première fois en presque trois décennies. Abderrahmane Berthé mise également sur un soutien politique constant à l'heure où Air Burkina s'embarque dans une nouvelle ère de stabilité et de durabilité.



Air Madagascar: diagnostic pour un redressement

«Air Madagascar: Diagnosis for recovery» – Page 53

Gilles Filiatreault, spécialiste du sauvetage des compagnies aériennes en difficulté, a pris les rênes d'Air Madagascar en octobre 2015.

Vincent Chappard l'a interrogé sur les mesures qu'il comptait prendre pour remettre à flot la compagnie nationale malgache.

Le conseil d'administration d'Air Madagascar a, pour la première fois, choisi un spécialiste hors du sérail malgache pour diriger la compagnie nationale. Le Canadien Gilles Filiatreault a donc pris les rênes de la compagnie malgache pour la redresser. C'est une tâche colossale pour ce Québécois, rodé à ce type de mission, depuis presque 20 ans.

Air Madagascar souffre de nombreux maux depuis de nombreuses années : une gestion peu rigoureuse et peu transparente, son maintien dans l'annexe B de la liste de sûreté de l'UE depuis 2011, des paralysies fréquentes du réseau, des grèves à répétition et surtout un déficit abyssal (Air Madagascar était en cessation de paiement en juin 2015).

Cette situation n'effraie pas pour autant Gilles Filiatreault. « Air Madagascar a des problématiques similaires aux précédentes compagnies aériennes dont j'ai eu la responsabilité de redresser. La compagnie nationale malgache n'est pas un cas unique. »

Le nouveau directeur général a fait valider son plan stratégique 2016-2018 au conseil d'administration de la compagnie en février dernier. L'heure est à sa mise en place.

Continuer à la page 52



« Je ne suis qu'un médecin, je présente une ordonnance au gouvernement qui choisira de la mettre en œuvre. »

GILLES FILIATREULT

SUIITE DE LA PAGE 51

Gilles Filiatreault a livré ses grandes orientations à African Aerospace. « Je ne suis qu'un médecin, je présente une ordonnance au gouvernement qui choisira de la mettre en œuvre. »

L'enjeu primordial selon Gilles Filiatreault est de trouver des solutions pour améliorer les liquidités d'Air Madagascar. Dans un premier temps, il a organisé une équipe resserrée autour de lui avec un directeur adjoint en charge de la sûreté des vols et un autre responsable de la finance. La finance et le département commercial sont directement rattachés à Gilles Filiatreault.

« Un audit général a été mené et tout a été revu de fond en comble que ce soit la flotte d'avions, les programmes de vols, les contrats, la structure de gouvernance et les ressources humaines. Et comme on dit au Québec, il n'y a pas de vaches sacrées. »

Il a entamé la chasse aux coûts voire aux gaspillages et commence à épilucher les contrats de la compagnie. « Il y a des prêts indirects qu'Air Madagascar ne paiera plus. La meilleure façon de réussir c'est aussi de maximiser nos « assets ». La plus importante d'entre elle, c'est la flotte d'avions et il faut la faire voler davantage. »

Le nouveau DG souhaite aussi rassurer les grands comptes et les tour-opérateurs, échaudés par les innombrables retards et incidents d'exploitation. « Je veux amener une stabilité opérationnelle », assure-t-il.

Air Madagascar emploie 1 200 personnes et fait travailler 200 prestataires. Elle a une flotte d'avions qui comprend deux Boeing, deux Airbus A340, quatre ATR et deux Twin Otter.



Gilles Filiatreault a également un œil attentif sur le problème de sureffectif au sein de la compagnie. Il n'a cependant pas précisé sa politique lors de sa rencontre avec le personnel. La mesure de compression du personnel n'a pas été évoquée mais il veut savoir si tous les employés sont utiles à la compagnie. « Celle-ci peut se faire mais ce ne sera pas dans l'immédiat. Il y a d'autres façons de procéder. Etant donné le bas niveau de salaire, les effectifs ont relativement peu d'impact sur le plan financier ». Cependant, Les contrats en CDD et temporaires n'ont pas été renouvelés à compter de février 2016.

Le développement d'Air Madagascar reste vital. « Ce n'est que quand la situation financière sera rentable que l'on pourra s'engager dans ce processus de développement. On se doit de protéger le réseau domestique car c'est ce qui rapporte le plus sur le plan financier », souligne Gilles Filiatreault.

Le gouvernement souhaite désormais adopter une politique plus libérale pour le transport aérien à Madagascar. Le pays dispose de nombreux accords avec de nombreux pays mais il faut surtout que le marché existe pour permettre aux compagnies aériennes d'opérer.

Jacques Ulrich Andriantiana, ministre malgache des Transports et du Tourisme a récemment confirmé à la presse locale cette volonté. « Si on veut effectivement atteindre un



Madagasikara Airways entre en scène

Une nouvelle compagnie aérienne est opérationnelle depuis fin octobre 2015 sur le marché domestique malgache. Elle est en concurrence avec Air Madagascar. Madagasikara Airways opère un Embraer 120 de 30 places. La compagnie dessert dans un premier temps, les villes de Toamasina et de Sainte-Marie depuis la capitale malgache. D'autres destinations comme Mahajanga figurent à terme sur son programme de vol.

Le principal défi de Madagasikara Airways : gagner la confiance des passagers. Elle devra donc éviter les problèmes techniques qui peuvent rapidement engendrer des retards et l'annulation des vols fréquents. De nouveaux avions sont attendus pour compléter sa flotte.

million de touristes d'ici 2020, nous sommes obligés de libéraliser. L'île Maurice est desservie par une quarantaine de compagnies aériennes, Madagascar en est à peine à une dizaine. »

Ce mouvement semble toutefois s'amorcer. Turkish Airlines a annoncé le lancement de quatre vols hebdomadaire à compter du 15 décembre 2015 sur Madagascar et l'île Maurice. Une nouvelle compagnie Madagasikara Airways (voir encadré) vient également de faire son entrée sur le marché domestique malgache.

Concernant le réseau international, la priorité est de sortir de l'annexe B de la liste de sûreté de l'UE. En 2013, l'UE décida d'autoriser une partie de la flotte d'Air Madagascar à desservir entre autres La Réunion et Mayotte (qui font partie de l'Union européenne). Cette sanction coûte très cher à Air Madagascar. La compagnie est engagée dans une perte d'exploitation systémique liée à son A340 immatriculé en Europe puis en Islande pour la desserte sur Paris. Le prix du kérosène dans la grande île est également l'un des plus chers au monde. Il est par exemple moins cher de 18% à La Réunion et de 40% moins à Bangkok.

Air Madagascar a suspendu temporairement (début janvier) ses vols pour la Chine (Guangzhou) et la Thaïlande (Bangkok). Le taux de remplissage et les coûts d'opération n'assuraient pas la rentabilité de cette route (Taux de remplissage moyen de 22% soit 40 passagers par vol et une perte de deux millions de dollars par an). Des discussions sont en cours avec Air Austral pour desservir l'Asie. Gilles Filiatreault envisage également de revoir le réseau de la compagnie sur l'Afrique.



Gilles Filiatreault a eu des rencontres qualifiées d'optimistes avec l'UE sur le sujet. Il a créé une équipe dédiée en charge de la certification. Déjà certifiée IOSA, la compagnie doit se préparer pour son renouvellement en 2016. Cette même équipe s'est concentrée sur l'inspection de l'EASA en février dernier pour un verdict en mai. Selon plusieurs sources, la balle se trouve davantage dans le camp de l'aviation civile malgache.

« Nous faisons tout ce qui est nécessaire pour qu'Air Madagascar soit reconnue au niveau de l'EASA », rappelle Gilles Filiatreault.

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Il compte aussi s'impliquer sur le réseau régional et au niveau de l'alliance Vanille pour une intégration de tous les besoins de la compagnie. Il souhaite se pencher parallèlement sur de nouveaux marchés comme la Russie, la Finlande ou encore la Scandinavie.

Le transport aérien est donc à la croisée des chemins. Le processus est en cours et on verra si la prescription du « docteur Filiatreault » apportera ses effets bénéfiques. Le premier volet de son mandat sera consacré à la restructuration de la compagnie. Le second vise à trouver un partenaire commercial et/ou un financier. Pour cela, une collaboration collégiale incluant la nouvelle direction, l'état malgache et le personnel d'Air Madagascar est vitale.

Une amorce de succès reposera essentiellement sur la nature de la participation et de l'implication de chaque partenaire.

SUMMARY

AIR MADAGASCAR: DIAGNOSIS FOR RECOVERY

With Air Madagascar suffering many problems over the years, Vincent Chappard reports that newly appointed director general, Gilles Filiatreault, has been tasked with turning the airline around.

The Air Madagascar board took a chance to choose someone outside of the Malagasy seraglio to lead the national company by appointing Canadian-born Filiatreault last October.

For the last 20 years, he has been a noted as a specialist in the rescue of troubled airlines.

Air Madagascar's list of ailments has included a lack of transparent management; its situation on Appendix B of the European Union safety list since 2011, which means it is restricted from operating under certain conditions in Europe; frequent paralysis of the network; repeated strikes; and a major deficit – Air Madagascar was insolvent in June 2015.

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However, all this does not frighten Filiatreault. "Air Madagascar has similar problems to previous airlines that I had the responsibility to help recover. We have a positive strategic plan for 2016-2018," he said.

The primary challenge for Filiatreault is to find solutions to improve the airline's liquidity.

"A general audit has been completed and everything has been redesigned from top to bottom, whether it be the aircraft fleet, flight programmes, contracts, governance structure or human resources," said Filiatreault. "Air Madagascar

needs to maximise its assets. The most important of them is the aircraft fleet, and it must fly more."

The new CEO also wants to reassure key accounts and tour operators, stung by countless delays and operating incidents. "I want to bring operational stability," he emphasised.

He also has his eye on the overstaffing problem. Air Madagascar currently employs 1,200 people and has around 200 service providers. Its fleet includes two Boeing 737s, two Airbus A340s and two ATR four Twin Otters.

The government also wants to adopt a more liberal policy for air transport in Madagascar. A new company, Madagasikara Airways, has just entered the Malagasy domestic market, while Turkish Airlines announced the launch of four weekly flights in December 2015.

After the liquidity problem, Filiatreault's priority is to get Air Madagascar off the EU safety-ban list and he has created a dedicated team in charge of certification.

"We will do everything that is necessary for Air Madagascar to be European Aviation Safety Agency (EASA) recognised," he said, adding that he also planned to review the company's network in Africa.

Another big challenge is the Madagascar fuel cost. It is 18% less on Reunion and a whopping 40% less in Bangkok.

Cancellations, collisions, confusion: no wonder airports are in crisis

Nigerian aviation is in crisis according to the local operators' association.
Oscar Nkala
reports.

Nigerian airlines lose at least \$100 million (N\$20 billion) annually to flight cancellations caused by bad weather and the lack of night lighting and landing aids at major domestic and international airports, the Airline Operators of Nigeria (AON) has reported.

Addressing the media in Lagos early in February, AON executive chairman, Captain Nogie Meggison, said domestic airlines were routinely forced to delay or cancel scheduled flights because most of the landing and navigational aids installed at the country's airports were not working.

"There have been skeletal flights throughout Nigerian for most of the past two years. Nearly 50% of the daily flights have been cancelled because the landing aids at the airports are not working. We cannot conduct night flights because there are no runway lights at most of the airports and we cannot fly in low visibility," he said.

"This is despite the fact that most of our aircraft have functional global positioning systems (GPS), which enable them to fly in zero visibility. In other parts of the world, airlines are able to fly at zero visibility because they have functional landing aids at their airports. However, landing and taking off from Akanu Ibiam International (Enugu) Airport remains impossible, even at 2,000 metres visibility, because there are no landing aids and no navigational equipment."

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He added that the lack of landing support has forced airlines to suspend flights and incur heavy losses in the process because they still have to pay the pilots, refund passenger fares and pay their suppliers.

According to AON, most domestic airports in Nigeria can only operate during the day because they lack the basic airfield lighting systems (AFL) and instrument landing systems (ILS) needed to support night flight operations.

Captain Nogie Meggison:
"There have been skeletal flights throughout Nigerian for most of the past two years."



Early in February, the Nigerian Airspace Management Agency (NAMA), Nigerian Civil Aviation Authority (NCAA), Federal Airports Authority of Nigeria (FAAN), Accident Investigation Bureau (AIB) and Nigerian Meteorological Agency (NIMET) met in collaboration with the International Civil Aviation Organization (ICAO), Airport Council International (ACI) and International Air Transport Association (IATA) to find ways of addressing the flight safety issues raised by the airlines.

At that meeting, NAMA managing director, Ibrahim Abdulsalam, said the agency had established runway safety teams at airports in Lagos, Abuja, Kano and Port Harcourt in a bid to enhance the safety of air navigation. He said the teams would be trained in the use of runway safety tool kits and the development and implementation of a national runway safety action plan.

Abdulsalam added that NAMA had short-term plans to install surface movement radar systems at Lagos and Abuja airports to ensure effective surveillance and control of aircraft, vehicles and personnel on the ground.

□□□□□

Aircraft and vehicles operating within the vicinity of the airport would be equipped with transponders to enable detection by radar and the newly installed automated data surveillance broadcast (ADS-B) system.

NAMA remains focused on the critical aspects of air safety, with the intention of improving take-off and landing of aircraft, surface movement of aircraft, movement of operational vehicles, security personnel, fuel tankers and construction vehicles, emphasised Abdulsalam.

The agency is also focused on the training of airfield lighting maintenance personnel, navigational aids maintenance personnel, aerodrome rescue, fire-fighting systems and runway inspections.

The NAMA boss said the agency was also working out ways of reducing incidents of runway incursions, confusions and excursions, which also constituted major hazards to aircraft landing, taxiing and taking off from most Nigerian airports. Ground collisions of aircraft also continued to haunt Nigeria, with three major incidents recorded in 2015.

"Runway excursions refer to the unintentional presence of an aircraft outside the runway as a result of overshooting, undershooting or running off the runway during take-off or landing roll," explained Abdulsalam. "These occurrences can be a result of severe weather, technical failures, human error, loss of situational awareness, inadequate, or lack of appropriate approach and landing or visual aids. Meanwhile, runway confusion is the misidentification of a runway by flight crew as a result of poor visibility, loss of situational awareness, inadequate visual aids, inadequate approach and landing aids, and parallel or near parallel runways."

By the end of February, NAMA had started working on the installation of new runway lights to replace the obsolete systems in place at 13 local airports.

ATRs market share in Africa is weak compared with its global performance - but that could soon be changing.



ATR unlocks the right combi for expansion

ATR is planning to ramp up its African aircraft sales efforts in a bid to expand its market share on the continent.

Victoria Moores
reports.

ATR CEO, Patrick de Castelbajac, says there is “no real reason” why the French-Italian aircraft manufacturer’s share of the market in Africa is less than 15%, while worldwide it runs at 75%. “We still have more than 60 aircraft flying in Africa but we believe there is a big market there and we are going to grow.”

One of the reasons for ATR’s comparatively low market penetration is because Bombardier won a key order from Ethiopian Airlines, which is now an established Bombardier Q400 operator.

“We missed a couple of key campaigns. We missed Ethiopian Airlines, which is the trendsetter, with stakes in many small airlines. That kills us,” De Castelbajac said.

He added that one of the factors in Ethiopian’s decision was that ATR did not offer a combi version at the time. It does now.

“Until now, we haven’t been in a position [to compete], because we didn’t have a product [to offer], but now we do. When it comes to the next deal, we will definitely be quite aggressive to win it,” he said.

While the ATR CEO was not specifically referring to Africa, he said it might fit well with the continent’s market dynamics, which mean passenger flows are thin and there is a strong need for regional cargo flights.

Worldwide, De Castelbajac said some regions and local authorities are interested in the combi’s potential. ATR is also offering a 78-seat high-density version, which may be attractive for lower-cost regional operations.

However, African sales are being hindered by the weak condition of the continent’s airlines and the local economy in general. “We need to get back in and show them the value of our product. It is not the best of times [in terms of African airline profitability], honestly, but I also think it is in those times we can make a difference,” De Castelbajac said.

ATR’s prime focus is sub-Saharan Africa, although it is

considering a revival in both north and southern Africa. Other markets ATR has tipped for growth include China, India and Iran, where ATR just secured a key strategic order from Iran Air.

“Our aircraft are robust, dependable, versatile and work very well under tough conditions. I think we need to demonstrate that in Africa. They are versatile, they operate safety with very little air traffic control infrastructure and have a high dispatch reliability.”



A further challenge is that ATR has built its success on the fuel efficiency of its products. “When fuel prices go down 70%, it doesn’t help,” De Castelbajac said. “Our competitive advantage is reducing, but thankfully we don’t just have fuel [as a selling point], so our business is sustainable. I don’t use a crystal ball, so I can’t say where fuel prices will be in two or three years, but the consensus is that they won’t stay where they are.”

However, ATR may be able to retain this advantage to a degree in Africa because its airlines have not felt the full benefit from the decline in oil prices, possibly because of high infrastructure costs, expensive trucking into land-locked countries and a lack of suitable refineries.

Conversely, exchange rates could adversely affect the attractiveness of ATR aircraft, which are sold in US dollars, whereas the majority of an airline’s revenues are in local currency. This means that, when the local currency depreciates against the dollar, ATR aircraft become comparatively more expensive, often undermining fuel efficiency gains.

ATR is aiming to deliver more than 90 aircraft worldwide in 2016 and sell roughly 100. “It could be more, it could be less, but that’s what we’re aiming for,” De Castelbajac said.

Le réseau de destinations **THE NETWORK**

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Transport Minister Tshenolo Mabeo concluded that Ben Dahwa (pictured) "did not deliver what he had vowed to do when he joined the airline".

The Botswana Government has dismissed the entire board of struggling flag-carrier Air Botswana, but is standing by the five-year plan that outgoing boss Ben Dahwa developed. Martin Rivers assesses the situation.

Ousted Dahwa's five-year plan may still be the key to survival

The board of directors at Air Botswana was dissolved in November, when Transport Minister Tshenolo Mabeo pledged to reboot the flag-carrier with a "clean slate" after years of losses.

It was not the news that Ben Dahwa, the airline's general manager, had been waiting for.

The former engineer was in the final stages of securing funding from the government for his five-year turnaround plan, drawn up with help from ICF Consultants.

Dahwa had no illusions about the difficulties facing Air Botswana – a minnow in the African aviation market with a history of corrupt management and inefficient operations.

"Please do not write us off. We are intending to greatly improve," he told journalists four months before his dismissal, acknowledging the parastatal's poor reputation but promising change for the better. "The future of Botswana is hinged on aviation. We are obsessed by doing things right for the first time."

It was an appeal that ultimately fell on deaf ears in government, with Minister Mabeo concluding that Dahwa "did not deliver what he had vowed to do when he joined the airline".

Air Botswana is now flying on autopilot under the watchful eye of Agnes Khunwane, its finance manager, until a new board can be appointed.

But, while Dahwa's 18-month tenure ended ignominiously, his efforts could yet mark a turning point for the company. Minister Mabeo told Parliament in February that Air Botswana will stick with the former chief's five-year business plan, which focuses on fleet renewal, ICT modernisation and operational refinement. The cabinet is now

Continued
on Page 58



CONTINUED FROM PAGE 57

assessing how to finance the strategy alongside other national priorities.

Speaking days before he left the company, Dahwa outlined the reforms that he believes can deliver profitability by 2020.

“We have to really stabilise our entire operation in terms of reliability,” the former chief said during an interview at the African Airlines Association (AFRAA) annual general assembly (AGA) in Congo Brazzaville. “That phase is what we have been busy with for the greater part of 2015.

“We want that stability to systematically be reflected in terms of productivity and, therefore, we are very carefully looking at our cost per available seat kilometre (CASK), because it is high. We have also been working on our on-time performance. Today we are sitting at 93% [on-time flights].”

Improved punctuality should stem the tide of passenger complaints, but tackling the flag-carrier’s underlying CASKs will not be straightforward.



Dahwa identified two ways of reducing unit costs – both of which have now been endorsed by Minister Mabeo. The first step is replacing Air Botswana’s manual ICT systems with automated technologies that “make operational life easier for our employees”. The second is modernising the fleet, which has an average aircraft age of 19 years.

Air Botswana presently deploys a mixed fleet of three ATR 42s, one ATR 72 and two BAe Avro RJ85s. Only the ATR 72 is less than a decade old.

“The two RJ85s are becoming a real challenge to keep in the air because of the operational costs,” Dahwa said, pointing to their low fuel efficiency and the lack of on-site maintenance support. “The three ATRs are still very much relevant for our size of operation. Today they are the ones that are really carrying the operation, but at some point we have to retire them.”

His proposal to the government called for the induction of seven aircraft, comprising five 50-70-seat turboprops and two 70-90-seat jets. No preferences were identified, with ATR, Bombardier, Embraer and Mitsubishi all considered viable manufacturers.

“We like turboprops. They make economic sense for the kind of [short] sectors that we operate,” Dahwa explained. “But some of the operators that we compete with are offering a jet service in the same market, so we also want to be able to do that.”

Asked whether a request for proposal (RFP) had been issued, the former chief said he was waiting for the government to provide financial

“We have to really stabilise our entire operation in terms of reliability.”

BEN DAHWA

guarantees before engaging with suppliers.

“What I can say for sure [is that] re-fleeting is imminent. That I can say with absolute certainty.”

Dahwa added, signifying his confidence just days before the board was dismissed. “There is enough realisation from the shareholder that something needs to be done. As to the details of how... that [is what] we are waiting for.”

Minister Mabeo’s later remarks to Parliament and the Botswana press confirm that there is, indeed, an appetite for renewal, although he stopped short of saying the funds were available.

Once given the go-head to re-fleet, Air Botswana will need to design its product for both business and tourism traffic. The country’s all-important diamond sector provides more than 70% of export earnings and was given a major boost in 2013, when mining conglomerate De Beers shifted its sales headquarters from London to Gaborone. International tourists are also on the rise, encouraged by the country’s safe-haven reputation following a spate of terror attacks elsewhere in Africa.

Both categories of travellers would be receptive to a business class offering – something that is currently lacking in Air Botswana’s fleet.

“Not being able to offer business class has been a limiter for us,” Dahwa admitted. “Just from an interlining perspective... we really need to provide that option [for] high-value tourists or businesspeople right through the experience.”

His plans for a premium cabin were being tailored to short-haul flying, with the emphasis on “improved [seat] pitch and a really enhanced customised service”.

Turning to Gaborone’s sixth-freedom prospects, Dahwa said the capital has clear appeal as a niche gateway for the sub-region. Instead of going head-to-head with Johannesburg in terms of scale and connectivity, he envisages the country’s main airport serving as an “alternative mini-hub” with shorter connecting times and more convenient routings for some journeys.

Parallel airport development projects in Francistown and Kasane should further boost the flag-carrier’s revenue, as will rising demand for cargo carriage to and from South Africa.

“In the short to medium term we are not going to be aggressively chasing expansion. We are going to be stabilising,” Dahwa reiterated. “But growth will come naturally.”

Air Botswana’s existing network comprises just four international cities: Johannesburg and





Cape Town in South Africa; Harare in Zimbabwe; and Lusaka in Zambia. Johannesburg is by far the largest market, being served from all four domestic points.

Asked about possible route development, the former chief said that “one or two more points” in South Africa were in the long-term plan. “And north of us there are really huge opportunities,” he continued. “If you look at places like Angola, like the Democratic Republic of the Congo (DRC), like Tanzania... these are all markets that will come under scrutiny as we do more feasibility studies.”

Intercontinental routes are not on the wish-list, owing to the flag-carrier’s limited scale.

“We are not going to be operating long-haul with our own metal. That is clear,” Dahwa stressed. “We want to be a regional player. The way we can add value within the sub-region is to feed and de-feed those bigger operators that come into Gaborone.”

Previous attempts at regional expansion, though, have not gone smoothly. In 2012, plans to add a raft of new destinations – Blantyre and Lilongwe in Malawi; Lanseria in South Africa; Nairobi in Kenya; and Victoria Falls in Zimbabwe – quickly unravelled.

“We like turboprops. They make economic sense for the kind of [short] sectors that we operate. But some of the operators that we compete with are offering a jet service in the same market, so we also want to be able to do that.”

BEN DAHWA

Air Botswana has also endured successive failed attempts at privatisation since the turn of the century. South Africa’s Comair twice emerged as a potential white knight – in 2003 as an equity buyer and in 2008 under a proposed management contract – but both times the talks fell through. Comair’s insistence on job cuts is thought to have scuppered the most recent negotiations.

While political interference could be a factor, the government has generally demonstrated a progressive approach to civil aviation. Botswana is steadily liberalising its bilateral air services agreements, courting foreign airlines in a bid to catalyse economic growth.

At the beginning of 2009, the country had scheduled air links with just four international cities. Today that figure has doubled, including Kenya Airways-operated flights from Nairobi and Ethiopian Airlines-operated flights from Addis Ababa.

Yet this enlightened approach only adds pressure on Air Botswana to define and fulfil its raison d’être.

If the next management team cannot stabilise the flag-carrier, Botswana’s famously democratic institutions may start asking tough questions about the parastatal’s right to exist.

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Despite a crippling lack of suitable aircraft for use in the long-running and on-going campaign against Boko Haram insurgents in the northeast of the country, news has emerged that the Nigerian Air Force (NAF) is to acquire an initial three CAC/PAC JF-17 Thunder fighters in 2016. Jon Lake reports.

The sound of Thunder on the Nigeria horizon

The JF-17 Thunder is a single-engined, lightweight multi-role fighter that was jointly developed by the Pakistan Aeronautical Complex (PAC) and China's state-owned Chengdu Aircraft Corporation (CAC), aimed primarily at export customers, and as a replacement for the J-7/F-7.

The aircraft made its maiden flight in August 2003 and the type entered service with the Pakistan Air Force (PAF) in February 2010.

It is seen as a cheap alternative to aircraft like the F-16 and Saab Gripen, and is optimised for air-to-air missions, though its 25mm GSh-23-2 twin-barrel automatic cannon can be used to strafe ground targets, and the aircraft can also carry up to 3,600 kg (8,000lb) of ordnance, including bombs, rockets and air-to-surface missiles – though few such weapons have been cleared for carriage by the type so far.



Although Pakistani JF-17s have been used for anti-terrorist operations in South Waziristan, and in the PAF's High Mark 2010 exercise, attacking surface targets with precision air-to-surface weapons, the PAF JF-17 squadrons are primarily assigned to air defence missions.

There are plans to integrate an external laser-targeting pod to allow the use of laser-guided bombs (LGBs), but this remains in the future.

The JF-17 Thunder: a cheap alternative to aircraft like the F-16 and Saab Gripen.



Nigerian interest in the JF-17 first emerged in October 2014, when NAF commander, Air Marshal Adesola Nunayon Amosu, visited the Pakistan Aeronautical Complex facility where the JF-17 is manufactured. During the 2014 International Defense Exhibition and Seminar (IDEAS) exhibition in Karachi, a Pakistani defence official said Nigeria was close to signing a contract and claimed that the Nigerian Air Force had finalised its recommendations for the acquisition of 25-40 aircraft, though in the event no such deal was confirmed.

If Nigeria does buy the three JF-17s, they would be the first aircraft of a larger order, and the west African nation would become the first export operator for the type. But, while this would undeniably enhance the NAF's prestige in the region, it is equally clear that other aircraft types would do much more to improve the force's combat capabilities against the Boko Haram insurgency.

While the Thunder may be more useful than the 12 or so CATIC F-7NI and FT-7NI fighters now in service (which are unable to carry precision-guided air-to-surface weapons), in capability terms it is still a far cry from the Textron AirLand Scorpion light attack and intelligence, surveillance and reconnaissance (ISR) aircraft that the air force was known to be seeking, or, indeed, the ex-Israeli Bell AH-1 Cobras that were at one time widely expected to be transferred to Nigeria.



Though the JF-17 does have some air-to-ground capability, the type will be less well suited to counter-insurgency operations than the 12 Alpha Jets and 17 L-39ZA Albatros jet trainer/light attack aircraft and seven Mi-24 attack helicopters that are already bearing the brunt of the offensive against Boko Haram, alongside two unarmed but sensor-equipped ATR 72 surveillance aircraft.

The elderly Alpha Jet and L-39 aircraft suffer problems of serviceability and the fleet has been reduced by attrition. Replacing them is recognised as a major priority.

According to the Nigerian newspaper *Punch*, the Nigerian Air Force has a total 2016 budget of NGN 85.61 billion (\$425 million), comprising of NGN 62.15 billion (\$308 million) for recurrent expenditure and NGN 23.46 billion (\$116 million) for capital expenditure. This budget was presented to the National Assembly in December by President Muhammadu Buhari and reported by *Punch* in January.

Citing a leaked copy of the budget, *Punch* said that NGN5 billion (\$25 million) has been allocated for the acquisition of the three JF-17s, together with NGN11.6 billion for two Mi-35M helicopters and NGN2.06 billion for 10 PAC Super Mushshak basic trainers.

After extensive delays, Denel Aviation has finally concluded a major avionics upgrade to the South African Air Force's fleet of 39 Denel TP-1 Oryx transport helicopters, which will enable them to remain in service into the 2020s. Jon Lake reports.

A GIANT LEAP FOR ORYX

The South African Air Force (SAAF) Oryx helicopters are certainly hard-worked – on one occasion recently no fewer than 13 were deployed simultaneously in support of United Nations operations throughout Africa.

The R492 million (\$31.5 million) fixed price, fixed-term upgrade contract was placed in 2007 as part of Project Drummer II – part of the wider Project Drummer Oryx life extension programme.

The Drummer II avionics upgrade was originally due to have been completed by June 2012, and was then pushed back to October 2014.

In its 2015 annual report, Denel revealed that it had received a contract variation order from the SAAF during 2013/14, addressing the changes in timelines that had resulted from extended engineering and flight test work, and from organisational changes at sub-contractor Advanced Technologies and Engineering (ATE), which was taken over by Paramount to become Paramount Advanced Technologies in 2013.

Denel reported then that (with 13 aircraft still to be upgraded) the new completion date was scheduled for January 2016. Later, the company said that the final four aircraft would be completed by the end of the 2015/16 financial year, which ended on February 28 2016.

The Drummer II upgrade results in a helicopter with a mix of digital and analogue equipment, which required the development of an interface

between the old and new technologies, as well as the development of new software.

The upgrade is less ambitious than was at one time planned, due to budgetary constraints, and the upgraded helicopter will not have the full glass cockpit that was originally intended.

The Drummer II communication and navigation systems baseline was agreed between the Armaments Corporation of South Africa (Armcor) and the SAAF, and Denel Aviation's helicopter maintenance, repair and overhaul division then tested all the components of the upgrade on a dedicated helicopter avionics engineering simulator before fitting it to the actual aircraft to ensure full functionality and safety.



The 39 upgraded Oryx helicopters will serve with four frontline squadrons, and with No87 Helicopter Flying School at Bloemspruit. The frontline squadrons are Nos 15 (based at Durban, with 'C' Flight at Port Elizabeth), 17 (at Swartkop, near Pretoria), 19 (at Hoedspruit, near the Mozambique border) and 22 (at Ysterplaat, near Cape Town).

The Oryxes are augmented by MBB BK117s (15 Squadron), AgustaWestland AW109s (17 and 19 Squadrons) and AgustaWestland Lynx 300s (22 Squadron).

Before the upgrade, there were four main Oryx

variants – the basic TP-1, used by the inland units, and three versions with varying degrees of special equipment for maritime duties.

No15 Squadron used Oryx Ms with flotation gear and marine band radios, while 22 Squadron used Oryx M1s, which added folding main rotor blades, and a pair of Oryx M2s, developed for use in cold regions such as Marion and Gough Island, as well as in Antarctica.

The M2 was fitted with ice detection, anti-icing and de-icing capabilities and was equipped with cockpit foot warmers, maritime transponders and 40 KVA alternators.

It is not known whether the Ms, M1s and M2s retained their special role equipment, post upgrade.

There were also differences in configuration, even among the basic Oryxes, with some aircraft featuring enlarged main undercarriage sponsons housing additional fuel tanks.

A handful of special mission aircraft, including an electronic warfare version equipped with Grinaker Systems Technologies GSY 1501 jamming systems (aircraft 1200), and a communications intelligence or communications jamming platform (aircraft 1208), were also part of the fleet. The latter aircraft, used by 17 Squadron, was equipped to operate against voice and data links in a frequency spectrum ranging from 20-1000Mhz, with extension to the 1.45Mhz band.

The Oryx, itself, is a unique derivative of the



Puma/Super Puma used only by the SAAF, resulting from an innovative and secretive programme undertaken during the apartheid era.

The SAAF was one of the largest export customers for the original Puma, taking 20 SA330Cs from 1970, 18 SA330Hs from 1975, 29 SA330Ls from 1977 and four civilian SA330J models. Most of the SA330Hs were subsequently upgraded to SA330L standards with the assistance of the Romanian company, IAR.

The final two SA 330Js were used for the development of the first XTP-1 Beta attack helicopters, when it became apparent that South Africa's planned new indigenous attack helicopter (which eventually became the Rooivalk) would require more powerful engines, and that it should use more powerful Makila engines and uprated dynamic systems (as used in Aerospatiale's then new Super Puma development of the SA330), rather than those of the original Puma.

It was equally clear that a Puma using these components would also offer significant advantages to the SAAF, though it was also apparent that sanctions would prevent South Africa from simply buying Super Pumas.

Instead, in early April 1986, Armscor began a clandestine project to acquire the necessary Makila turboshaft engines.

It achieved this by funding a Makila upgrade for the Pumas of the Portuguese Air Force in a complex operation involving Beverly Securities

Incorporated, the Portuguese Air Force, and the Portuguese companies INDEP and OGMA, and Aerospatiale.

Aerospatiale supplied the upgrade components in kit form, for incorporation by OGMA, but continued delivering extra kits to Portugal after the upgrade was complete. These kits were then delivered to South Africa via a front company in Zaire over a five-year period. SAAF SA330L 177 was re-engined to serve as the prototype for the new Oryx, but further aircraft used new airframes, and were not converted from existing Pumas.



This was made possible because, in 1986, IAR, which produced the Puma under licence, had supplied 50 Puma airframes (without tailbooms), to South Africa.

These Romanian airframes made extensive use of lightweight carbon fibre composite materials and also included enlarged sponson fuel tanks. With the addition of new, locally designed engine intake filters/particle separators and a locally made tailboom, based on that of the Super Puma, South Africa had effectively created its own Super Puma equivalent.

The Oryx helicopter was manufactured by the Atlas Aircraft Corporation (also known as Atlas Aviation), which had become a subsidiary of Armscor when the latter was established in 1968.

Subsequently, in 1992, Atlas was absorbed into the new Denel Aviation, and the Atlas Oryx became the Denel TP-1 Oryx.

The new aircraft offered a significant performance improvement over the original Puma, conferring excellent hot and high and engine-out performance, and also cut operating costs by 25-30%.

The Oryx first flew on September 18 1987 and deliveries began in May 1989, though the aircraft's existence was not publicly admitted until August 1991, when an example was displayed at an open day at Potchefstroom.

Denel Aviation assembled 51 aircraft (including the converted SA330L), the 'production' aircraft being serialised 1200-1249.

The Oryx replaced the original SA330C/H/L/J Puma in SAAF service, and also allowed the retirement of the ageing Frelon. It now forms the backbone of the SAAF support helicopter and search and rescue fleet.

In recent years, the Oryx has been deployed throughout Africa on peace support operations, including the Democratic Republic of Congo and Burkina Faso.

Several have been lost in service and a handful have been withdrawn for ground instructional use, leaving about 40 in service when Project Drummer was launched. The relative shortage of Oryx helicopters has led to the aircraft being augmented in frontline squadrons by smaller helicopters, including the BK117 and AW109.

South Africa's Rooivalk attack helicopter is back in the news and Sam Basch looks at how the programme is stepping up.

A three-day capability demonstration in February of South Africa's Rooivalk attack helicopter firing weapons at the Denel OTR test range seems to suggest a measure of urgency.

This likely resulted from the helicopter's successes in the eastern Democratic Republic of Congo (DRC) in support of the United Nations Force Intervention Brigade (FIB) since 2013.

Up until 2015, the three white-painted Rooivalks had clocked almost 1,200 hours on reconnaissance and combat missions. This is significant considering the aircraft had only been deployed from October 2013.

During these missions they have come under fire from rebel groups, prompting "live engagements" using their 70mm rockets and the chin-mounted 20mm cannon.

According to the South African Air Force (SAAF), they have fired no less than 199 rockets and more than 600 rounds of cannon ammunition in 27 months in theatre.

Rooivalks have proven to be effective escorts for the Oryx and Mi-8 transport helicopters, as well as for land vehicles in high-threat environments. But what makes the Rooivalk vital for the three-nation FIB (Tanzania, Malawi and South Africa) is its ability to operate effortlessly at night and in adverse weather, often flying nap of earth (NOE). Moreover, it boasts outstanding availability, much better than the Mi-25/35 helicopters deployed there, given Rooivalk's ease of maintainability in the field, which was a prime design feature.



With the deployed aircraft on regular rotation back to South Africa for depot-level maintenance, significant pressure is mounted on the SAAF 16 Squadron's fleet of only 11 operational Rooivalks.

Denel Aviation has indicated that a damaged airframe, the result of a hard landing some years ago, is being rebuilt. This will add only one additional machine to the fleet, which in the view of analysts is too small anyway.

The original SAAF requirement was for 36 machines, which was trimmed to 24 under budget constraints and ultimately to only 12.

South African defence analyst, Helmoed-Römer Heitman, reportedly said there was "only two things wrong with the Rooivalk – we do not have enough of them, and we do not yet have any

Is risk sharing the way to take Rooivalk to the next level?

precision weapons". He acknowledged that the heavy anti-armour Mokopa missile, from Denel Dynamics, had entered production and that laser-guided rockets could be acquired for the Rooivalk. Mokopa was originally destined to arm the Rooivalk.

It was probably no coincidence that Forges de Zeebrugge (FZ), the Belgium-based subsidiary of Thales Group, late last year test fired its new 70mm laser-guided rockets at Denel OTR. The test platform was a 16 Squadron Rooivalk.

In a statement, the company claimed that the FZ275LGR has a hit-target ability of less than one metre (CEP<1m), an operational maximum range of 6km, and is able to destroy vehicles moving at speeds of up to 60kmh. A key advantage is its precision, which minimises collateral damage for a cost much lower than that of a missile.

Currently the Rooivalk, including the FIB-deployed machines, fire FZ's non-guided 70mm rockets. At the OTR capability demonstration, senior SAAF officers were tight-lipped about the possibility of South Africa becoming the launch customer for the FZ275LGR.

Denel invited a host of foreign delegates to the capability demonstration to highlight the Rooivalk's ability to also launch the precision-guided Mokopa missile. It was recently qualified on an international customer's Super Lynx helicopter for naval operations, in which it is configured with a multi-purpose warhead.

Denel states that the semi-active laser homing missile has a range of 10,000 metres and, thanks to a multiple warhead, boasts 1,350mm penetration capability.

Two missiles were launched on successive days, one of which was guided to target by a SAAF Gripen fighter jet with the laser designator in an under-wing pod – a first for Denel/SAAF and the Rooivalk. The Gripen illuminated the target from a stand-off distance of about 25km, with the Mokopa being launched by the Rooivalk 8km from the target.

According to Denel OTR officials, the demonstration was a continuation of a series of tests over recent months covering a wide range of parameters.

Although the Mokopa had been launched from the Rooivalk on numerous occasions over the years, it is clear Denel is now intent on qualifying its integration on the attack helicopter.



The company sees it as an "essential component of the mobile warfare concept", which complements ground force assets. The Mokopa enhances its "heavy mobile firepower, which in a peacekeeping scenario will act as a strong deterrent to aggression", Denel stated.

Continuous deployment on peace support operations not only presupposes increased firepower, but also more concretely shows Denel's thinking on upgrading the Rooivalk platform.

Denel is keenly aware that the current Rooivalk Mk.1 requires a midlife upgrade within the next five years due to known obsolescence. Why not couple this to developing the proposed Mk.2 version in a risk-sharing partnership with interested friendly nations?

Might this be underlying the presence of high-

Denel is keenly aware that the current Rooivalk Mk.1 requires a midlife upgrade within the next five years due to known obsolescence. Why not couple this to developing the proposed Mk.2 version in a risk-sharing partnership with interested friendly nations?



ranking officials from several nations at the demonstration?

Nigeria brought a strong delegation, alongside Turkey, Algeria, Poland, Namibia, Kenya, Egypt and several South African industry heads.

Significantly SAAF chief, Lieutenant General ‘Zakes’ Msimang and his deputy, Major General Jerry Malinga, led a senior air force, navy and joint operations contingent.

Late last year a deputy ministerial-level Hungarian delegation showed keen interest in the Rooivalk as a replacement for that country’s obsolete Mi-24 ‘Hind’ helicopters.

Certainly Denel’s briefings at the capability demonstration highlighted the strategy. It outlined the concept of a “joint Rooivalk attack helicopter programme”, describing a phased approach, which offers significant opportunities for technology transfer and production participation.

The joint programme is envisaged to run over four years. In a first phase, the programme will cover programme definition (including user requirement statements), product and support system specification, development strategy (including technology transfer plan),

implementation plan (including industrial participation) and programme budgets.

Phase two would deal with systems update development, industrialisation and production set-up, prototype developments, systems integration and testing, production and assembly for launch customers, and later production and assembly for follow-on customers.



According to Denel, the model hinged on risk sharing with participating nations, with risk being managed through a phased approach during development. The programme allows for an indigenous helicopter capability with “fundamental improvements” to a helicopter type – expandability.

Denel also referred to production of “allocated systems and components” as well as “possible cooperation in weapons system assembly”.

If there was any doubt about whether Denel could take this programme forward, much of it was dispelled in official statements. The company’s chief operating officer, Jan Wessels,

affirmed that the next phase in the Rooivalk programme was “inevitable”. Coordinator of Nigerian Army Aviation, Major General Leo (Lucky) Irabor, said the “immense resource available by coming together would ensure progress for our common good” and that the “partnership holds promise”.

In this endeavour, Denel can still count on its South African industry partners, who jointly contributed significantly to the country having established a sound helicopter design, development and support capability.

As design authority and original equipment manufacturer, Denel continues to have the full backing of the South African National Defence Force, in particular the air force.

Perhaps, then, the sense of urgency has to do with an imminent partnership with one or more friendly nations ready to play their part in getting a new generation Rooivalk attack helicopter in the air sooner rather than later. And, if this new generation machine, properly armed for peace support on the continent, succeeds as well as the current model, it would be Africa and its aviation industry that would emerge the winner.

The two RMAF KC-130Hs can extend the ranges of the F-5Es and Mirage F1s whenever the need arises.



The road to Morocco

Alan Warnes looks at the recent evolution of the Royal Moroccan Air Force (RMAF) and how its fighter upgrades have been integrated into its air defence system.

Most North African countries are suffering from terrorism or civilian strife or both, and yet Morocco appears to be keeping these problems at bay.

Maintaining law and order, confronting issues in the Western Sahara, and keeping an eye on neighbouring Algeria, has meant that security has always played a major part of Moroccan life.

For years the Forces Royales Air Marocaines (Royal Moroccan Air Force, RMAF) soldiered on with little investment. Its fighter fleet comprised obsolete F-5Es and Mirage F1s purchased in the late 70s.

Its C-130Hs, acquired in the mid 70s, had become tired, carrying on with all the heavy tactical transport needs. The helicopters, bought in the 60/70s, were simply old and out-dated.

The RMAF lacked any real investment after the failed 1972 military coup against King Hassan II, but that changed when his son succeeded him in July 1999. The 26-year-old King Mohammed VI had served in the Royal Moroccan Army and gradually changed attitudes, leading to some serious investment into the RMAF.

General Ahmed Boutaleb, the RMAF's current commander, was appointed on May 13 1999, two months before the king came to the throne.

The fighter force was a first priority for the RMAF and a phenomenal job has been done, which has largely gone unnoticed by many.

The whole fleet of around 20 F-5s was upgraded during the 2000s. Under the utmost secrecy, Israel Aircraft Industries (IAI) revolutionised the fighters' capabilities by

integrating the multi-mode Elta EL/2032M radar. Israel is also thought to have sold the Litening laser designator pod system, and a batch of light Israel Military Industries Delilah cruise missiles. Their focus is the Algerian air defence radars and missile systems.

One source said: "Their F-5s now have a complete tactical situation awareness system working with a Link-16-type data-link, allowing aircraft to share and receive tactical information from ground-based air defence radars to build the air picture."

All the F-5s are based at Meknès, Base Aérienne des Forces Royales Air (BAFRA) 2, where Escadre de Chasse (EdC) 'Chahine' specialises in the air-to-ground role and EdC 'Barak' focuses on air defence, although pilots are trained in both missions.

Then came the upgrade of 27 Mirage F-1EH, F1CH and F1EH-200s, the latter fitted with air-to-air refuelling probes, into one common Mirage F1EM/CM-VI fleet. The upgrade was designed by the Association Sagem Thales pour la Rénovation



The RMAF's Alpha Jet fleet has been upgraded to allow pilots a smoother transition on to F-5s, Mirages or F-16s.

Below: All the surviving F-5E/Fs went through a comprehensive upgrade in the early 2000s.



modernisation...

d'Avions de Combat (ASTRAC) consortium.

The joint venture between Thales and Sagem Défense Sécurité (SAFRAN) had been established in November 2005 at the request of the French Ministry of Defence, which was tired of them competing against each other for this kind of work.

SABCA of Belgium integrated the Thales RC400 (RDY-3) multi-mode Doppler radar, based on the Mirage 2000-5 RDY radar, albeit with a smaller antennae giving shorter range.

The cockpit has been transformed with two colour multi-function displays, a head-up display (HUD) and hands on throttle and stick (HOTAS) system.

Another main feature of the upgrade is the enhanced electronic warfare (EW) capabilities. As well as a new digital radar-warning receiver (RWR), it features an external electronic countermeasures (ECM) pod designed to detect, classify and counter the search, fire-control, and missile-seeker radars. Its suppression of enemy air defences (SEAD)/destruction of enemy air

Net-centric Air Defence Systems

The RMAF has developed a very sophisticated net-centric air defence system, linked by its newly acquired Thales ground radar air defence systems.

At the core of the network are eight AN/MPQ-64F1 Sentinel radars, offering protection at low-to-medium altitude, providing an air surveillance range of up to 120kms (75 miles) and supporting a multitude of advanced weapons systems like Hawk and Stinger missile air defence systems.

The 3D system, equipped with a phased array X-band unit capable of automatic target detection and tracking, plugs into Morocco's highly autonomous command and control system.

Having also acquired eight Sentinel M1152 high mobility multi-purpose wheeled vehicles (HMMWVs) to tow the radars, it is a highly mobile system aimed at protecting the country from airborne threats.

defences (DEAD) capabilities are a real threat to Algeria.

The French jet is equipped with the new Armement Air-Sol Modulaire (AASM) Hammer missile, principally for challenging the Algerian Pantsir S2 surface-to-air defence systems and SU-30MKA aircraft.

Four Thales Analyseur de Signaux TACTiques (ASTAC) electronic intelligence pods were supplied by the French Government to equip the upgraded F1s. They have allowed the RMAF to develop an impressive capability to map Algeria's radar and communication networks. The imagery can be data-linked to the two Falcon 20ECMs, modified in 2005, to attack Algerian systems, with their on-board electronic warfare wizardry.

Air defence capabilities have also been considerably enhanced, with the Mirage F-1M-VI's ability to downlink the complete air picture through its Thales avionics systems to the Thales-Raytheon ground air defence radar network (GMA-400 and AN/APQ-64 Sentinel radar), which, when

Continued
on Page 68

CONTINUED FROM PAGE 67

combined with the BVR Mica EM/IR missile, can bring down a high-flying Algerian MiG-25 or a low level Su-24MK fairly easy.

One source said: "The Mirage F1EM-VI is a phenomenal striker with a powerful electronic intelligence capability."

Many in the French fighter industry regard this upgrade as the most complex ever undertaken on the F1.

Around 15 F1s are split between EdC 'Assad' and 'Atlas', with the remainder being cannibalised. The main issue stems from the lack of availability of spare parts for the SNECMA ATAR 9K engines. Several two-seat Mirage F1Bs are believed to have come from ex French Air Force stocks, although there was a disagreement over who should pay for their overhaul before delivery.

The \$2.4 billion acquisition contract for 16 F-16C Block 52s and eight F-16C Block 52s was a big surprise as Morocco was expected to stick with France and buy the Rafale. Morocco had always previously preferred its former colonial masters. Lockheed Martin was just as startled with winning the contract as Dassault was at losing it.

The first pair of F-16Cs was officially accepted during a formal handover ceremony on August 4, 2011. Three F-16 units – EDC 'Falcon', 'Viper' and 'Spark' – are now trained in the air-to-air and air-to-ground roles serving the 6 BAFRA at Ben Guerir, which was officially opened on July 27 2009 after many years of renovation.

SOMMAIRE

La modernisation de la RMAF

Alan Warnes a analysé les évolutions récentes de la Force aérienne royale marocaine (RMAF) et comment la modernisation de ses avions de combat a été intégrée dans son système de défense aérienne.

La majorité des pays d'Afrique du Nord souffrent de terrorisme ou de troubles à l'ordre public, voir des deux. Le Maroc semble être à l'écart de ces problèmes. Le maintien de l'ordre public, les conflits dans le désert du Sahara occidental et la surveillance des pays frontaliers (l'Algérie) montrent que la sécurité a toujours joué un rôle majeur dans la vie du pays.

Depuis des années, la RMAF poursuit ses missions avec peu d'investissements. Sa flotte est composée de F-5E et de Mirage F1 achetés à la fin des années 70. Ses avions de transport C-130H montrent des signes de fatigue et ses hélicoptères ont été achetés dans les années 60/70.

La RMAF manquait d'investissements. Après l'échec du coup d'état militaire contre le roi Hassan II en 1972, cette donne a changé. Son successeur, le roi Mohammed VI qui a servi l'armée royale marocaine, y a injecté des investissements.

Morocco has nearly completed the upgrade of its 27 Mirage F1s. The work contracted to ASTRAC is the most complex of all F1 upgrades.



Just like the Mirage F1 crews, the F-16s have been training regularly on SEAD missions, working with the AGM-88 HARM missile and Raytheon digital radio frequency memory (DRFM) electronic warfare systems.

Actively training its personnel in SEAD, to ensure they can distinguish a real radar system from electronic decoys the Algerian air defence radars may emit from systems like the US-built AN-TPS/78, is all part of the F-16 tasking

All Moroccan combat aircraft are net-centric, highly integrated by datalink with the newly acquired Thales ground radars. These capabilities did not exist 10 years ago but, today, represent a

sustained effort very cleverly achieved by Moroccan personnel. This modernisation programme has been well thought through and will certainly stretch the Algerian air defences, despite Morocco's lack of financial resources.

■ TRANSPORTS

Kenitra (3 BAFRA), the RMAF's transport base, is the home to a 16-strong C-130H Hercules fleet, which includes a pair of KC-130H air-to-air refuellers and a surviving EC-130H, fitted with sideways looking airborne radar (SLAR).

Seven light airlift CN235Ms, including one VIP version, were acquired in 1990.

Le contrat d'acquisition de 16 F-16C Block 52 et de 8 F-16C Block 52 fut une grande surprise alors que le Maroc s'appêtait d'acheter le Rafale. La livraison des deux premiers F-16C a été officiellement acceptée le 4 août 2011. Trois F-16 sont maintenant opérationnels pour des missions air-air et air-sol.

■ LES AVIONS DE TRANSPORT

La flotte comprend 16 C-130H. On compte également sept avions tactique de transports légers CN-235M. Quatre avions C-27J d'Alenia ont été livrés en 2010 et 2011. Enfin, le gouvernement marocain a investi dans l'achat de cinq avions Bombardier 415 afin de protéger les zones agricoles du pays.

■ HÉLICOPTÈRES

Il n'y a pas eu d'évolution concernant la flotte d'hélicoptères basée à Rabat-Sale. Les AB205 continuent leurs missions. Il y eu dans les années 70, la première des 24 livraisons des hélicoptères SA-330F. Avec l'arrêt actuel des Chinooks CH-47C (pilotes en formation aux Etats-Unis), les hélicoptères Pumas ont pris la relève. Enfin, les 24 hélicoptères Gazelles sont toujours en opération.

■ LA FORMATION

La RMAF dispose d'un centre d'instruction au pilotage

Having no boom-equipped tanker, many of the RMAF F-16s are fitted with conformal fuel tanks. Extending the range of its fighters means they can strike targets deep inside enemy territory. Moroccan F-16s are working as part of the Saudi-led coalition, striking at rebel targets in Yemen.



Nothing more was purchased by transport command until four Alenia C-27Js were delivered between July 2010 and late September 2011 to alleviate pressure on the Hercules fleet.

The need to protect the agricultures of Morocco, stemming from a new government policy, led to a single Bombardier 415 water-bomber being delivered to Kenitra in March 2011, boosted by four more by early September 2013.

A couple of King Air 200s are also used for VIP purposes, with one being working in the Al Ghait rain-making programme.

à Marrakech. Il est chargé de la formation de nouveaux pilotes pour les avions de combat et de transport de même que pour les hélicoptères. Les élèves intègrent le centre via une sélection en vol pour s'entraîner sur les dix AS-202 Bravo dédiés.

S'ils réussissent, ils pourront voler sur l'un des 24 nouveaux avions T-6C et effectuer 120 missions sur le T-6C. S'ils passent cette étape, ils voleront sur les Alpha Jets à Meknès pendant environ un an. Durant cette période, ils apprendront les rudiments du pilotage des jets rapides et les manœuvres tactiques récemment intégrées à l'Alpha Jet. Un contrat de 27 millions d'euros a été signé fin 2009 avec Thales pour la modernisation des 22 Alpha Jets.

La formation sur les avions de transport a lieu à Kenitra qui abrite le Centre d'Instruction des Equipages de Transport (CIET). Les nouveaux pilotes commenceront leur formation sur des avions Beechcraft King Air 100 et 200.

L'Ecole de Spécialisation Hélicoptères (ESH) située à Rabat-Sale dispensera une formation sur des hélicoptères AB 206 Jet Ranger.

La RMAF est donc bien équipée et dirigée. Le Maroc a également développé un véritable système de défense aérienne en réseau et un sens tactique unique qui lui permet d'être en avant-garde en Afrique du Nord.

■ HELICOPTERS

Nothing has changed among the helicopter fleet housed at Rabat-Sale (BAFRA1) since the 1970s.

The ageing AB205s, purchased in the late 60s, continue to soldier on in light transport duties. A secondary task, spraying locusts infesting many parts of Morocco, has them equipped with spray bars to dispense insecticide.

The mid 70s saw the delivery of the first of 24 civilian export SA-330Fs, although the survivors have been upgraded with composite blades to SA-330Js in recent years.

With the CH-47C Chinooks currently grounded, the Pumas have presumably filled the void these heavy-lift helicopters have left. Their grounding is thought to be owed to the Chinook pilots and ground crews being sent to the USA to train on CH-47Ds. Three of these were ordered in 2011 and delivered to Morocco during mid 2015.

Survivors of 24 SA342L Gazelles, acquired in 1980s, continue to provide sterling service in the communications role. They can also be used in a light attack capability and deploy to the Western Sahara whenever needed.

■ TRAINING

The Centre d'Instruction au Pilotage (CIP, Pilot Training Centre) at Marrakech is tasked with training new pilots for the RMAF's fighter, transport and helicopter streams.

Students enter the sélection en vol (flight selection), to fly one of around 10 AS 202 Bravos used specifically for this task. If successful they will be cleared to fly one of the 24 new ultra-modern T-6Cs.

Deliveries to Meknès-Menares commenced in late January 2011 and, within a year, all 24 had been received.

Students will fly 120 missions in the T-6C during their year at the CIP while undergoing basic flying training. If selected for advanced flying training, the Alpha Jets at Meknès will be the next stop.

Pilots will spend around a year with the Centre d'Instruction des Pilotes de Combat (CIPC) at Meknès (BAFRA 2).

They will learn the basics of flying fast jets and tactical manoeuvres on the recently upgraded Alpha Jet. A €27million (£29.7 million) deal to upgrade 22 Alpha Jets was awarded to Thales in late 2009.

SABCA, based at Charleroi, has been responsible for developing the upgrade kits, which includes a HOTAS, a HUD and flight instruments in the centre of the control panel. The rear cockpit has a new multi-function display that enables the instructor to monitor the weapons and navigation systems.

The upgrade is a more affordable way of modernising the Alpha Jet. These new digital systems provide most of the advantages of a glass cockpit without the expense of fitting one.

Transport aircraft training takes place at Kenitra, home to the Centre d'Instruction des Equipages de Transport (CIET, Transport School). New pilots will commence their multi-engine training with the l'Ecole de Spécialisation Transport (EST) on one of a handful of King Air 100 and 200s.

The Ecole de Spécialisation Hélicoptères (ESH, Helicopter School) at Rabat-Sale is where rotary-wing students will learn their trade, flying the AB 206 Jet Ranger.

The RMAF punches well above its weight and its leadership has the tactical nous to match any adversary in northern Africa. Working in a net-centric air defence system means it should be ready for any eventuality.

Western Sahara desert and Algeria

Since 1975, there has been an on-going dispute in the Western Sahara over independence for the local Sahrawi peoples, leading to a large military presence in the region.

Backed by neighbours Algeria, the Polisario Front has been at loggerheads with the Moroccan Government over territory it claimed as an independent state, the Saharan Arab Democratic Republic (SADR) on November 14 1975.

Fighting between the two sides has been on and off for nearly 40 years and finding a solution has proved beyond the efforts of the United Nations.

Today, there are some 100,000 refugees living in Polisario camps in Algeria and, as a result, the long-running mistrust between these two neighbours simmers on. Morocco views Algeria as a threat to its stability, highlighted by the shooting down of a RMAF C-130H on October 12 1981 by a Polisario surface-to-air (SAM) missile. The weapons were allegedly supplied by Algeria and Morocco has never forgotten this incident, or others like the shooting down by a SAM-6 of an F-5E 91921 along the Algerian border on January 12, 1985. This and other fighter wrecks are displayed in the Polisario Museum at Tindouf in Algeria.

Nigerian air force chief arrested in \$150m arms scandal

Former Nigerian Air Force (NAF) chief of air staff, Adesola Amosu, has been arrested by the country's Economic and Financial Crimes Commission for allegedly converting at least \$150 million meant for the acquisition of new aircraft, spares and accessories for his personal use.

Amosu was arrested as part of the on-going investigation into the \$2.1 billion arms scandal that has led to the arrest of many former air force officials, who held positions in the government of former president, Goodluck Jonathan.

The probe is centred on the acquisition of sub-standard military equipment, aircraft and accessories by top officials, led by Jonathan's former national security adviser, Colonel Sambo Dasuki.

Amosu is accused of authorising the purchase of two Russian-made helicopter gunships, which were fitted with dysfunctional rotors taken from a broken down aircraft.

Among other charges, Amosu faces accusations of fraud and failing to follow public procurement rules. According to Nigerian presidential spokesperson, Garba Shehu, Amosu was deeply involved in

suspicious contracts awarded to a company called Societe Equipment International (SEI) Nigeria Limited.

"Between January 2014 and February 2015, the NAF awarded 10 contracts totalling more than \$930 million to SEI Nig Ltd.

"Letters of award and end-user certificates for all the contracts issued by the NAF and Office of the National Security Advisor (ONSA) respectively, did not reflect the contract sums.

"Instead, these were only found in vendor invoices, all dated March 19 2015. Additionally, some of the award letters contained misleading delivery dates suggesting fraudulent intent in the award process. The observed discrepancies are in clear contravention of extant procurement regulations."

Shehu continued: "The SEI contracts included procurement of two used Mi-24V helicopters instead of the recommended Mi-35M series at the cost of nearly \$137 million."

Further, investigators alleged that the helicopters were excessively priced and not air worthy at the time of delivery and were still undergoing upgrades when they were deployed in counter-insurgency operations

against Islamist militant group, Boko Haram, in the north east of the country. One of the helicopters reportedly crashed and killed both pilots during the operations.

Amosu is further accused of involvement in the fraudulent acquisition of four Alpha fighter aircraft for the air force, of which only two non-militarised versions were ever delivered. He is also accused of involvement in the acquisition of six 36-D low-level air defence radars from GAT Techno Dynamics at an inflated cost of \$33 million, when the actual cost is \$6 million. It is further alleged that the radars were delivered without the vital identification friend or foe (IFF) systems to distinguish between NAF and adversary aircraft.

Amosu also faces charges of approving fraudulent maintenance costs for several Alpha Jets, a single Hercules C-130 aircraft, and Mi-24V/35P helicopters by Ukrainian company Sirius Technologies.

Several former ministers and officials of Jonathan's government are facing various charges of procurement fraud related to arms acquisition programmes that ran between 2009 and early 2015.

SOMMAIRE

LA TUNISIE RENFORCE SA LUTTE CONTRE LES MILITANTS EXTRÊMISTES

La Tunisie déploie de réels efforts pour lutter contre l'extrémisme et renforcer le contrôle de ses frontières. Le pays a augmenté de 35% le financement destiné à ses forces armées et à sa police.

Les Etats-Unis et l'Allemagne ont également aidé le pays à travers des formations, des subventions et surtout des équipements pour accroître les capacités des forces armées tunisiennes dont 12 hélicoptères UH-60M Black Hawk.

Huit ont été livrés en avance pour permettre à la Tunisie de lutter plus efficacement contre les groupes terroristes et en particulier ceux passant à travers sa frontière avec la Libye.

La menace du groupe Ansar Al Sharia reste la plus importante.

Il est nécessaire dans ce contexte d'améliorer significativement la rapidité de réaction de la défense aérienne tunisienne dont les capacités « air-sol » restent modestes. Par conséquent, les forces aériennes du pays ont opté pour la modernisation de leur flotte d'avions de combat F-5E / F Tiger II (Northrop) plutôt que de les remplacer. La Tunisie a reçu huit avions F-5E et quatre F-5F entre 1984 et 1985 puis cinq F-5E en 1989.

Plusieurs d'entre eux ont été détruits lors d'accidents. Douze de ces avions sont toujours en service sur la base aérienne de Bizerte-Sidi Ahmed.

Le 16 septembre 2015, le département américain de la Défense a annoncé la mise en place d'un contrat par Northrop Grumman Systems Corporation pour la modernisation des 12 F-5 tunisiens (nouvelle avionique, maintenance et une mise à niveau du « Block 1 » incluant le système de navigation LN-260). Ce programme devrait être achevé d'ici le 30 décembre 2018.

Tunisia is upgrading its F-5 fleet.



Tunisia gets Hawkish with the militants

Tunisia is making real efforts to combat militant extremism, strengthening its borders and providing a 35% increase in funding for the army and police forces.

The USA and Germany have also provided training, grants and equipment to the Tunisian armed forces.

With the main emphasis being on counter-terrorism and counter-insurgency, the Tunisian Air Force's most important acquisition has been that of 12 UH-60M Black Hawk helicopters, eight of which are being delivered ahead of schedule in an effort to bolster the nation's ability to combat terrorist groups, including militant groups that have 'spilled' across the border from neighbouring Libya.

The priority given to counter-terrorism and counter insurgency has prevented any meaningful improvement in Tunisia's fast jet capability, which has always been primarily tasked with air defence, and whose air-to-ground capabilities are modest.

As a consequence, the Force Aérienne de la République de Tunisie (Tunisian Air Force) is upgrading its Northrop F-5E/F Tiger II fleet, rather than replacing these elderly fighters.

Tunisia received eight F-5E and four F-5F aircraft between 1984 and 1985 and these were augmented by five ex-US Air Force F-5Es in 1989. Several have been lost in accidents, including at least two F-5Es and one F-5F. Twelve survivors are understood to remain active with 15 Squadron at Bizerte-Sidi Ahmed Air Base.

The F-5 is Tunisia's primary air defence aircraft. Other combat-capable Tunisian Air Force fixed-wing aircraft include 10 MB-326K/L armed trainer/light attack aircraft, nine L-59T advanced trainers (which also have a rudimentary combat capability), together with 15 propeller-driven, piston-engined basic trainers, including 12 weapons-capable SF-260WTs and six unarmed SF-260Cs.

Now the US Department of Defense has placed the \$32.5 million contract with Northrop Grumman for an upgrade to 12 surviving Tunisian F-5s, with new avionics and maintenance repairs.

The so-called Block 1 avionics upgrade will include the installation of Northrop Grumman's LN-260 navigation system. The programme is expected to be completed by December 30 2018.



Egypt snaps up 50 Alligators

Egypt has awarded Russian arms export agency Rosoboronexport a contract for 50 Kamov Ka-52 Alligator combat helicopters, for delivery between 2016 and 2018.

The Ka-52 (code-named 'Hokum' by NATO) is an all-weather attack helicopter derived from the Ka-50 'Black Shark' that was developed in the late 1980s.

Unlike the original single-seat Ka-50, the Ka-52 features two crew side-by-side, the second crewmember having been added to manage the expanded sensor suite, which includes nose- and mast-mounted radar systems, as well as electro optical/infrared (EO/IR) sighting systems.

The extraordinary case of the 'missing' aircraft

South Africa's defence minister has alleged that training aircraft have been stolen from his country's air force.

Nosiviwe Mapisa-Nqakula, Minister of Defence and Military Veterans, has made the extraordinary allegation that the South African Air Force (SAAF) is unable to give its trainee pilots sufficient flying hours because there are no aircraft.

She was responding to questions as to why SAAF trainee pilots were being sent to Russia and Cuba for training.

The minister told the National Council of Provinces that departing and retiring SAAF pilots had stolen unspecified air force aircraft to put in a museum.

Though a number of training aircraft used by the apartheid-era SAAF have found their way into museums and into the hands of private owners (including wartime vintage T-6 Harvards and 1960s Atlas Impala jet trainers), there is no evidence of any

Unusually for a helicopter, the crew sit on NPP Zvezda K-37-800 ejection seats.

The Egyptian Ka-52s will be produced to the latest standards, with Research and Production Corporation Precision Instrumentation Systems (JSC SPC CPR) ECO-52 EO turret-mounted sensor system in place of the existing GOES-451 sensor turret.

This is compatible with Vikhr and Ataka laser-guided missiles.

The Ka-52K was developed especially for use on board the Mistral class ships by the Russian Navy, which ordered 40, with options on 28 more. The first Ka-52K flew on March 7 2015.

of the SAAF's more recently acquired training aircraft 'disappearing' in the way alleged by the minister, and the air force inventory includes more than enough aircraft to meet the SAAF's training requirement, though their serviceability and availability is questionable as a result of budgetary pressures and mismanagement.

The 35 Pilatus Astra aircraft, converted to standard PC-7 Mk II configuration under Project Ithambo from 2010, remain on the SAAF's books, and are allocated to the Central Flying School and Silver Falcons aerobatic team at Langebaanweg Air Force Base.

The SAAF also continues to operate 23 of the 24 BAE Hawk Mk 120 aircraft delivered as part of the 1999 strategic defence package (SDP), though the fleet was briefly grounded after the April 2014 crash of one of the aircraft. The Hawks fly from Makhado Air Force Base (formerly AFB Louis Trichardt) with No85 Combat Flying School.

SOMMAIRE

L'EGYPTE SE DOTE DE 50 « ALLIGATORS »

L'Égypte a signé un contrat pour l'acquisition de 50 hélicoptères de combat Ka-52 Alligator avec l'agence russe Rosoboronexport entre 2016 et 2018.

Le Ka-52 est un hélicoptère dérivé du « Ka-50 Black Shark » développé par Kamov à la fin des années 1980.

Le Ka-50 est le seul hélicoptère à être équipé de rotors contrarotatifs. Cela lui permet d'avoir une cellule plus compacte qu'un autre hélicoptère de même masse et de même capacité.

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Contrairement à la version Ka-50, l'hélicoptère Ka-52 est biplace. Le Ka-52 égyptien bénéficiera des derniers standards de l'hélicoptère de combat de Kamov.

L'Égypte a également acheté deux navires Mistral initialement construits par la DCNS/STX France pour la Russie. Ils ont été soumis à un embargo suite à « l'annexion de la Crimée par la Russie ». La France et la Russie ont ensuite décidé qu'ils seraient vendus à l'Égypte, après le retrait de certains équipements.

L'Égypte devrait positionner les hélicoptères Ka-52K Katran (version navale du Ka-52) à bord de ces deux navires. Chacun devrait transporter 16 hélicoptères. Le Ka-52K de Kamov a été spécialement conçu par la marine russe pour opérer à bord des navires de type Mistral. Il a effectué son premier vol le 7 mars 2015.



A close-up of the Inundu pod.

South African Pod switches on to the EW training market

The new Inundu pod could revolutionise the way air forces carry out their electronic warfare (EW) training, as Alan Warnes recently learnt.

South Africa's Council for Scientific and Industrial Research (CSIR) has completed the first flight of its new electronic warfare pod.

The Inundu (Zulu for 'moth') system was fitted on a Hawker Hunter flown by Ron Wheeldon and retired South African Air Force pilot, Major General Desmond Barker. The electronic testing, evaluation and training pod was fitted on the veteran aircraft at Lanseria, South Africa.

Erlank Pienaar, the CSIR's acting executive director, said recently: "The pod first flew in September and subsequently went through successful trials at Paardefontein in November. We are now in discussions with possible customers."

The CSIR had been working on the pod for about 20 months ahead of its first flight. It was tested up to a flight envelope speed of 350 knots (648km/h). The work was aimed at testing its aerodynamics and flights have continued at faster speeds, to increase airworthiness.

It will serve as an experimental platform for airborne electronics and support EW testing and evaluation. "The pod is ideal for EW training too," Pienaar added. Designed to provide an airborne laboratory environment on military-type platforms, no customised electronic hardware hardening is required.



The CSIR has now completed the integration of the pod with a phase one electronics payload, which includes the organisation's own digital radio frequency memories (DRFMs). These have the capability to generate radar threat simulator waveforms, used to simulate and test EW receiver systems, as well as radar target and electronic countermeasure (ECM) waveforms (for testing radar systems).

The flight trials last November evaluated the pod's performance as an airborne radar and electronic warfare (REW) 'laboratory'. The payload utilises the CSIR's high resolution DRFM, radar signal processor (RSP), data capturing and RF technology – building blocks developed by the organisation over many years, which enables a wide range of radar and EW testing, evaluation and training applications.

Mounted under a fast jet, the pod will simulate radar target acquisition missiles. It can simulate missile pull-up and missile evasive manoeuvres, just as the real missile would during its approach to the target. At the same time, it will track emissions and interface with ground control stations to ensure the operator or trainer can achieve optimal impact.

Evaluating the performance against existing sensors on naval vessels would provide detailed data that would allow countries to develop their own concepts of operation and doctrine employment.

Kevin Jamison, leader of the CSIR Inundu aeronautic development team, was also pleased with progress so. "The pod is similar in size and mass to the widely used BL-755 store, which allows low-cost integration with many fast jet aircraft types, such as the BAE Hawk, Alpha Jet, Hawker Hunter, F-16, Tornado, F-4 Phantom and the Mirage III. It is highly configurable with a modular interchangeable payload," he said.

Most Middle East countries are operating the Alpha Jet or Hawk, so could certainly be attracted by the South African system.

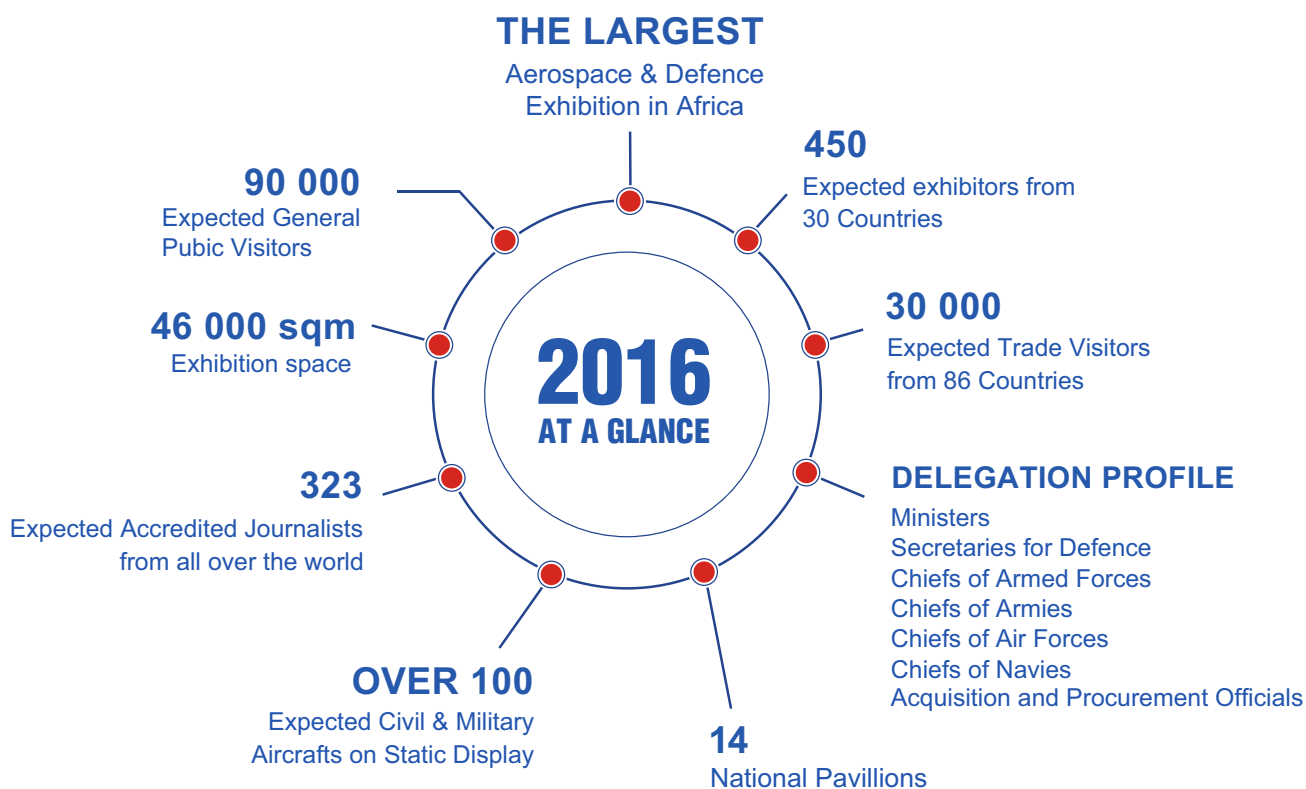
Egypt, Kuwait, Oman, Qatar (which have all purchased new fighters in recent months or are set to receive them shortly), along with Saudi Arabia and the UAE are keen to take on their own EW training system responsibilities. Bahrain also flies Hawks.

Most Middle East countries have strict security regulations and do not want to work with foreign companies, which, in theory, could pass very sensitive EW information on. With systems such as the Inundu, these air forces could fit the system on to their own aircraft and develop their own tactics.

The pod offers the option of being electrically independent from the carriage aircraft by using a ram air turbine (RAT), Wi-Fi communication and a base station telemetry link.

Pienaar said: "Our focus is now on phase two of the Inundu pod development. The most important element of this is the development and integration of a RAT. We are planning to demonstrate the RAT-powered Inundu during Africa Aerospace and Defence 2016 in September."

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East African Aviation has become the first company in Ethiopia to own and operate an air ambulance aircraft. The fledgling private airline also provides charter flights and has established a pilot training school.

Kaleyesus Bekele,
*reports from
Addis Ababa.*



THE NUMBER ONE MEDICINE MAN

Captain Mulat Lemlemayehu says flying is in his blood. During 39 years working for Ethiopian Airlines, he commanded aircraft ranging from the historic DC3 to the state-of-the-art B787 Dreamliner, and clocked up 27,000 flight hours.

He retired in August 2014, aged 60. But, in his final years of service, he had been thinking about how he could continue serving the public and sharing his wealth of experience. That was when he hit on the idea of establishing a private airline and pilot training school in the Ethiopian capital, Addis Ababa.

After consulting with his friends (most of them retirees from Ethiopian Airlines) a feasibility study was conducted, which showed there was a big gap in the market. So, based on the study, Lemlemayehu decided to establish East African Aviation Private Airline and Pilot Training School.

Both the airline and the training school became operational last year after securing an air

operator's certificate (AOC) from the Ethiopian Civil Aviation Authority. The airline provides charter flight and air ambulance services.

One of Lemlemayehu's first tasks was to provide a modern air ambulance service, which, he said, was non-existent in Ethiopia. Usually aircraft were called in from South Africa or Kenya. "Any aircraft can take a patient. But if you do not have the required medical equipment the patient may die," Lemlemayehu said.

Though Ethiopia has the highest concentration of diplomats in Africa, there was no aircraft locally fit to provide air ambulance services. There were sad incidents where patients died while waiting for transport coming from other countries.

"We once had a call from a VIP, who sought immediate medical evacuation to South Africa. Unfortunately, we failed

to deliver because we did not have a properly equipped aircraft. This prompted me to launch a modern air ambulance service," explained Lemlemayehu.

He bought a King Air 350 aircraft from the US for \$2 million and then spent more than \$200,000 equipping it with state-of-the-art medical equipment.

The company then hired a physician, licensed by the US Federal Aviation Administration. The aircraft can carry a patient, doctor and carer.

"The aircraft has highly functional and durable air ambulance equipment that exceeds all stringent aviation

regulations. It has been inspected and approved by the Ethiopian Civil Aviation Authority," Lemlemayehu said.

The aircraft can land and take off on gravel,

"Any aircraft can take a patient. But if you do not have the required medical equipment the patient may die."

**CAPTAIN MULAT
LEMLEMAYEHU**

Continued
on Page 76

CONTINUED FROM PAGE 75

asphalt and concrete runways. "We selected it because it is comfortable. It can operate on a short field runway in domestic airports and it can cruise at an altitude of 35,000 feet at 300 knots."

East African Aviation has become the first company in Ethiopia to own and operate an air ambulance. "We can bring a patient from all the regional states to Addis Ababa. We can fly a patient from Addis Ababa to Dubai, Jeddah, Nairobi or South Africa, via Lusaka."

The company is also holding talks with business partners in Djibouti and Sudan to provide the air ambulance service in the neighbouring countries.



To make the service affordable in Ethiopia, the company launched a special medical insurance scheme where a person pays \$2,040 yearly to an insurance company. Whenever the policyholder needs urgent medical treatment, he or she will be flown to Saudi Arabia, the UAE, Kenya or South Africa, where East African Aviation has made special hospital arrangements.

"We have made a tripartite agreement – East African Aviation, local insurance companies and hospitals in Jeddah, Dubai, Nairobi and Johannesburg," Lemlemayehu explained. "The patient will be ferried to one of these countries and get a medical treatment worth \$75,000 dollars free of charge. This is part of our effort to make air ambulance service affordable in Ethiopia."

Lemlemayehu hopes to acquire more aircraft in future but, for the time being, he also uses the King Air 350 to provide charter flight services.

"We can convert the cabin into a very comfortable passenger aircraft at short notice and provide charter flight service. The King Air 350 is a quiet aircraft that passengers prefer to fly."

East African Aviation targets international organisations, VIPs, mining and construction firms in Ethiopia and neighbouring countries. "Ethiopia's economy is growing fast. The foreign and public investment has created a market for general aviation. Besides, Addis Ababa is the seat of the African Union, United Nations Economic Commission for Africa and other international and regional organisations. And there are few operators, so there is the market opportunity," Lemlemayehu pointed out.

However, the ride has not all been smooth. Lemlemayehu said the Ethiopian Civil Aviation Authority had been very cooperative but, at times, securing flight clearances was challenging.

"You need to apply for clearance 12 hours ahead of departure. At times that may be too long to wait. Some customers need to fly urgently, which is why they seek a charter flight. This is improving and officials have promised to make it more efficient."

The other challenge Lemlemayehu faces is congestion at Addis Ababa Bole International Airport, the hub for national carrier, Ethiopian Airlines.

Some 13 international carriers fly to Addis Ababa and all the private operators are also based at the airport. "There is no secondary airport in or around Addis Ababa where general aviation operates. So we have to share the sole runway with scheduled commercial flights. This

has been a big challenge, especially for our pilot training school," said Lemlemayehu. "When we train our cadets in take-off and landings, we are told to stay away until a scheduled commercial flight arrives or leaves. We spend a lot of fuel unnecessarily hovering around. This costs us a lot." Lemlemayehu believes it is now imperative to have an airstrip for general aviation on the outskirts of Addis Ababa.

Despite the problems, the East African Aviation Pilot Training School has already become a successful start-up. It acquired two glass-cockpit Cessna 172 trainer aircraft from Sweden-based Air Unlimited for €380,000 (\$413,189) and bought two full-motion flight simulators – a Cessna and a King Air – from US-based Redbird Flight International for \$390,000.

Most of the instructors are retirees from Ethiopian Airlines Aviation Academy and the Ethiopian Air Force.

The school has dormitories and a canteen and can accommodate 24 cadets at a time. It has auditoriums, briefing rooms and a library, and offers private pilot licence (PPL) and commercial pilot licence (CPL).



It takes a cadet four months to complete a PPL programme. The CPL training takes 14-16 months, based on the performance of the cadet. The tuition fee for PPL is \$23,000, while the CPL costs \$66,600. The tuition fee covers the entire pilot training courses, dormitory, catering, laundry, uniform, resident permit fee and health insurance expenses.

Currently, the school is training eight cadets from Ethiopia, South Sudan and the Democratic Republic of Congo (DRC).

"We are expecting more students from Congo, Gambia and other African countries," said Lemlemayehu.

The school also trains dispatchers. Ten students are now taking dispatcher courses.

"There is a shortage of pilots in different parts of the world.

"As the price of fuel is going down, operators will increase their fleet numbers and the demand for pilots will pick up. We want to contribute our share in satisfying the demand for young aviators," explained Lemlemayehu.

East Africa Aviation has a plan to establish an aero club in Addis Ababa – there is not one in Ethiopia. "There is a huge concentration of diplomats in Addis Ababa and many have a PPL and want to fly for an hour or two at weekends. There is no such facility so far. So we are also working on that."

General aviation in Ethiopia is still at its infant stage. There are 12 registered private airlines but only six of them are operational and none provide scheduled flight services. "I want general aviation in Ethiopia to be as robust as it is in Kenya," concluded Lemlemayehu.



Captain Mulat Lemlemayehu: Bought a King Air 350 aircraft from the US for \$2 million and then spent more than \$200,000 equipping it with state-of-the-art medical equipment.

Jon Lake reports on the crisis affecting South Africa's VIP transport wing.

Plans to buy a second-hand BBJ fell through.



SAAF VIP aircraft need still unfulfilled

The shortcomings of South Africa's VIP air transport capability were underlined in February 2016, when technical problems prevented President Jacob Zuma from returning from Burundi on board the Presidential BBJ, with the SAAF instead scrambling an ageing Falcon 900A to collect him.

The South African Air Force (SAAF) has had a long-standing requirement for new VIP aircraft. Waterkloof-based No.21 Squadron currently operates a pair of Cessna Citations and a Falcon 50 (dating from the early 1980s), with a Falcon 900A (acquired in 1992) and a single Boeing 737-7ED BBJ delivered in October 2002.

But, as well as relying on a stable of elderly and mainly relatively short-legged aircraft, No.21 has also been hit by budgetary constraints that have seen pilots failing to keep their ratings current, with the SAAF unable to afford to send pilots to the UK and USA for the required simulator training.

□□□□□

Worse still, such training has sometimes been cancelled to save air fares after course fees have been paid, while six SAAF pilots were sent to the UK to train on a Bombardier Global Express family aircraft, whose acquisition was then cancelled.

In 2012, plans were announced to acquire a new Boeing 777 VIP aircraft in a R2 billion (\$128 million) deal. The order was cancelled and the offer was allowed to lapse.

More recently, plans to buy a second-hand BBJ fell through. As a result, aircraft have increasingly been chartered to fly the president, cabinet ministers and VIPs, at significant cost. Major General Jerry Malinga, SAAF deputy commander, said: "If all the money the SAAF had spent on aircraft charters over the past 20 years was available for acquisitions, the air force today would have had a good VIP capability."

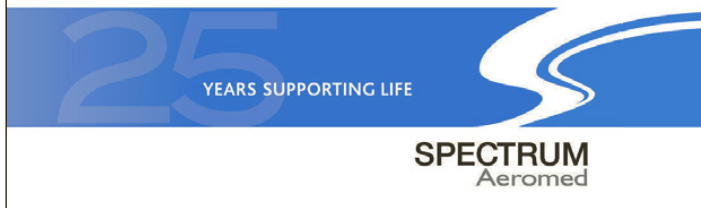
Last year, Armscor opened the tender process for a new presidential and VIP aircraft, which could cost as much as R4 billion (\$256 million). It was reported that money had been moved to the Department of Defence (DoD) strategic capital acquisition master plan (SCAMP) to allow for the purchase or lease of up to three 'interim' aircraft while Armscor and the air force searched for an ideal long-term solution.



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GLOBAL GATEWAY

Morocco's Kairaouine Mosque was the world's first university and once the foremost centre of learning on the globe. Today the kingdom holds its own among much larger nations in terms of innovation. Liz Moscrop studies what this means for its business aviation sector.

There is a lot for the world to learn about Morocco. So much so that Transport Minister, Aziz Rebbah, has high hopes for his country as a vital hub for corporate aviation.

At last November's Middle East Business Aviation (MEBAA) show he declared: "Already, Morocco represents about 50% of the business jet activity in north Africa. Our geographic position linking Europe with Africa is well known, but our historic and cultural links with the Arab world have made us an attractive base for many expanding Middle Eastern businesses."

Not only that, but Morocco is topping the charts for Africa, according to a couple of recent surveys.

At the World Economic Forum this January, US magazine *News & World Report* ranked it 35 out of 60 countries in America, Africa, Asia, and Europe – ahead of every other north African country in the Middle East North Africa (MENA) region. Scores were based on 65 attributes grouped into nine indicators: adventure, citizenship, cultural influence, entrepreneurship, heritage, movers, open for

business, power and quality of life.

Morocco's high scores came from the 'movers' category for its up-and-coming economy, which ranked 12th worldwide, and in 'heritage', where it landed the 17th spot. The 60 countries belong to four reputable rankings, including scores from the United Nations and the World Bank.

Added to that, the kingdom is rapidly becoming an aerospace hub. According to the country's aeronautical industry organisation, GIMAS, it has attracted more than 100 international aerospace players. Boeing, Bombardier, Safran, Stelia, UTC, and Zodiac have all invested millions of dollars in factories there. Key cities are Bouskoura, Casablanca, Marrakech, Mohammedia, Nouasser, Rabat and Tangier, which account for more than 8,000 aerospace jobs.

Business aviation plays a critical role in all this development and is growing at 15-20% per year. It is no surprise, then, that the F&E Aerospace/MEBA show – MEBAA – at Mohammed V International Airport in Casablanca was such a success. Nearly 60



Left: Morocco universities have been the seat of earning for years. Opposite page: The Casablanca show and above Ali Alnaqbi from MEBA.

exhibitors turned up, including several Middle East players, such as JP Jets from Jordan and Saudia Private Aviation, as well as an international line-up including Africair, Boeing Business Jets, Bombardier, and GDC Technics.

Although the static display was small, it was perfectly formed, comprising a Dassault Falcon 7X, a Cessna Caravan, a Diamond DA42, a Bombardier Global 6000, a Hawker 800XP and a Gulfstream G550.

MEBAA chairman Ali Alnaqbi called Casablanca “the new destination for business aviation”, while the biggest news came from Morocco’s Office National Des Aéroports (ONDA) and Director General D’Aviation Civile (DGAC), which announced that they are planning to develop Ben Slimane Airport, near Mohammedia, into the region’s first dedicated business aviation hub airport. This will include a new fixed-base operation (FBO).

Ben Slimane is ideally located between the country’s main economic centres of Casablanca and Rabat, and is very close to the fast-growing Mohammedia port city (the centre of the Moroccan oil

Continued
on Page 80

CONTINUED FROM PAGE 79

industry). It has a single runway (14/32, 3,074 metres) and has already started to establish itself as a convenient destination for private aviation, with Stars Aviation Services operating the existing VIP lounge.

Six fixed-wing operators are already signed up: Anfajet, Alfa Air, Mt Fly, Dalia Air, Air Ocean Maroc (AOM) and ASA. Heliconia is set to be the first helicopter operator there. It says that this will "guarantee the development of this activity".

An invitation to tender has also been issued for FBOs at six of the country's main airports: Agadir, Casablanca, Fez, Marrakech, Rabat-Salé and Tangier.

This bodes well for the flourishing charter and handling industry already in place in the north African nation.

Firms such as El Massira (Agadir)-based Moroccan Aviation Services have handlers all over the country and work across the board for both commercial airline and private flights.

Charter firms, Alfa Air and Dalia Air, have modern fleets available for charter, and offshore oil and gas companies abound. The Heliconia Group, for example, set up shop in 2012 and

operates in a number of sectors, such as electrical works, health, and the oil industry. Across the region, it aims to become a major competitor in France, north and sub-Saharan Africa. It won a contract with the ministry of health for a helicopter rescue service in Tangier last October, and last year opened a base in Senegal.

US helicopter firm, Weststar Aviation Services, also has bases in Morocco, serving the oil and gas industries predominantly.

Another plus is that, unlike many countries in the region, Morocco managed to avoid a big drop in foreign direct investment in the wake of the global financial crisis and the Arab Spring uprisings of 2011. This has meant that development continues apace. Indeed, the Bloomberg Innovation Index ranked Morocco as the 48th most innovative country in the world out of 80 countries in the 2016 index.

The New York financial group revealed the results of its annual ranking in January. Morocco's best performance came from the 'high-tech density' category, where it ranked 33 worldwide, thanks to its boom in aerospace, defence and renewable energy sectors. South

Korea topped the rankings with a score of 91.31, followed by Germany, Sweden, Japan and Switzerland. In the MENA region, only Israel (11), Turkey (36), Tunisia (46) and Morocco (48) made it to the 'top 50'.

Bloomberg collates its data from the International Monetary Fund, the World Intellectual Property Organization, the World Bank, the United States Patent and Trademark Office, the Organization for Economic Co-operation and Development, and UNESCO.

In recent years, Morocco has often performed well in terms of innovation in international rankings. A recent study on world competitiveness showed that innovation is one of its top assets.

This innovation has not gone unnoticed. The French equipment manufacturer, Daher, is set to acquire a third industrial site in Tangier for an investment of more than €15 million (\$16.33 million), according to French news site *L'Usine Nouvelle*. The firm already has units in Tangier and Casablanca dedicated to the manufacture of composites and engine components.



SOMMAIRE

SUR LE CHEMIN DE L'EXCELLENCE

La mosquée Kairaouine du Maroc fut la première université du monde et à un moment de l'histoire, un des premiers centres de l'enseignement. Aujourd'hui, le Royaume figure parmi les nations les plus innovantes. Liz Moscrop analyse l'impact que cela peut avoir sur le secteur de l'aviation d'affaires.

Il y a beaucoup à apprendre du Maroc. Le ministre des Transports du Royaume, Aziz Rabbah, souhaite que le pays devienne un hub pour l'aviation d'affaires.

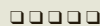
« Le Maroc assure environ 50% de l'activité des avions d'affaires en Afrique du Nord. Notre position géographique entre l'Europe et l'Afrique est reconnue et nos liens historiques et culturels avec le monde arabe font du Maroc un tremplin pour les affaires en pleine expansion au Moyen-Orient », déclare-t-il.

Le Maroc se positionne également comme pays leader en Afrique. Le magazine américain *News & World Report* a classé le Royaume, 35ème sur 60 pays en Amérique, en Afrique, en Asie et en Europe. Le pays est en passe de devenir une plaque tournante de l'industrie aéronautique. Selon le *GIMAS*, le pays a attiré plus de 100 groupes aéronautiques internationaux. Cela représente plus de 8000 emplois dans les villes de Bouskoura, Casablanca, Marrakech, Mohammedia, Nouasseur, Rabat et Tangier.

L'aviation d'affaires y joue un rôle essentiel. Elle enregistre une croissance annuelle entre 15 et 20%. Le dernier salon MEBAA à Casablanca fut un grand succès avec près de 60 exposants et de nombreux avions sur le statique : Dassault Falcon 7X, Cessna Caravan, DA42 Diamond, Global 6000, Hawker 800XP et un G550.

Selon Ali Alnaqbi, président du MEBBA, Casablanca est la nouvelle base pour l'aviation d'affaires. L'ONDA et la DGAC envisagent de

développer l'aéroport Ben Slimane pour en faire le premier hub de l'aviation d'affaires de la région. Il intégrera un nouveau FBO. Six opérateurs ont déjà répondu présents : Anfajet, Alfa Air, Mt Fly, Dalia Air, Air Ocean Maroc (AOM) et ASA. Heliconia devrait développer une activité d'hélicoptères. Il a également remporté un contrat avec le ministère de la Santé pour un service d'assistance à Tanger.



Le développement de l'aéronautique se poursuit au Maroc en parallèle avec les capacités d'innovation. Selon l'*Usine Nouvelle*, Daher va acquérir un troisième site industriel à Tanger, soit un investissement de plus de 15 millions d'euros. Elle sera opérationnelle au premier trimestre de 2017. Stelia Aerospace va lancer une usine de production en janvier 2017. GDC Technics se renforce également dans le secteur de la MRO. Selon son DG, Mohammad Alzeer, l'Afrique est stratégique. « Nous avons travaillé en étroite collaboration avec le gouvernement marocain et nous avons identifié un site à Marrakech pour notre implantation. »

Le Maroc s'est imposé comme un hub pour l'aviation d'affaires entre l'Europe et l'Afrique. Le pays prépare également une génération de jeunes ingénieurs aéronautiques très talentueuse. « Le potentiel de croissance est énorme et de nombreuses études montrent que le Maroc est le plus important marché du continent africain. »

The new plant will be operational in the first quarter of 2017 and will create 250 jobs.

Stelia Aerospace, too, launched a production facility in Morocco in January. Stelia is the new name of the merged Airbus subsidiaries Aerolia and Sogerma, and makes business and first-class seats, large aircraft structures and equipment.

GDC Technics is also stepping in to develop maintenance, repair and overhaul (MRO) and modification services across Africa and challenge existing providers in southern Europe. Formerly known as Gore Design Completions until a takeover by Saudi-based owners two years ago, GDC will establish the new facility at Menara Airport in Marrakech.

Shabbur Pirmohamed, who led the aggressive turnaround at GDC USA, is spearheading the new facility.

GDC has also opened a facility in India and agreed a joint venture in Hong Kong to develop its presence in Asia. Mohammad Alzeer, CEO, said at the time: "Africa is very important to us. We have worked closely with the Moroccan Government and we have identified the right site in Marrakech. Marrakech is a great place to go to and there is a skilled workforce there."

Yes, the world has a lot to learn still about the kingdom. Today the Kairaouine Mosque is known as the University of al-Kairaouine and, like its counterparts throughout the country, is producing a generation of talented young aeronautical engineers.

This has to please MEBAA's Alnaqbi, who said: "Morocco has established itself as a hub for business aviation between Europe and Africa. Its potential for growth is huge, and many studies have shown that it is the most important market in the continent of Africa."

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NAC GETS TO GRIPS WITH AFRICA

NAC has an illustrious history in African aviation dating from 1946, according to JP Fourie, one of the company's executive directors.

He said Lanseria has become very expensive as a GA base, driven in part by the growing presence of low-cost carriers Mango and Kulula. "The airport has changed and its whole business plan has changed. It's now around passengers and low-cost carriers," he said.

Gary Phillips, helicopter sales director said: "Historically we were a very strong aircraft sales company, but our main focus has changed to operations, including international contracts and charter flying. We are authorised sales partners for TBM Daher, dealers in aircraft from Eclipse Aerospace and Robinson Helicopters, as well as authorised distributors for Piper Aircraft and an independent representative for Bell Helicopters. Our relationship with Dassault allows us to sell their technologically superior Falcon jets to selected prospects across the African continent. In addition we hold resale relationships with several United States, and other international organizations, which give us a continuous source of the finest pre-owned aircraft.

National Airways Corporation (NAC) is Africa's largest general aviation company. Ian Sheppard visited its Lanseria Airport base near Johannesburg and found that it is also one of Africa's most diverse aviation companies.

"From an experience perspective we are one of the most versatile in Africa," said Fourie. "And we have a very large and diverse fleet," added Phillips. This includes several Beech 1900s but also helicopters, for instance operating in Brazzaville, in the Republic of Congo. These operate government flights under a contract with a local operator.

"But our business is not just based around the aircraft we own," said Phillips, who added that NAC has 140 aircraft on its air operator's certificate (AOC). Some are leased from owners, current examples being Embraer 120's and 145's, Gulfstreams, Challengers, Hawkers, King Airs and Learjets.

"Our contracts are of such a varying nature you can't bind yourself into one aircraft type e.g Beech 1900Cs and Ds," said Fourie. He added that NAC has over the years "bought, refurbished and redeployed" around 250 Beech 1900s – about one third of the aircraft ever manufactured. NAC is indisputably the specialists in Beech 1900 sales and refurbishments, and this initiative was led by industry stalwart, Nigel Forrester.

Fourie noted that there were "two really different worlds" in

Continued
on Page 84

CONTINUED FROM PAGE 83

African flying. "South Africa is largely first world in terms of infrastructure, but the rest is broadly third world, but quickly developing."

He added: "Up the sides of Africa, you have pockets of significant air activity, invariably where the least infrastructure is and where our services are required."

Ad hoc charter work is local or international, with the largest aircraft being typically something like a Gulfstream GIV", said Phillips. A common use would be when a presidential flight from somewhere in Africa is "hiring in additional lift".

So where will demand come from over the next few years? Fourie reckoned Nigeria was "really taking a beating" due to low oil prices but that Congo is "the rough diamond that will really be the place [where demand comes from]." However, they said that South Africa "remains the economic powerhouse [of Africa] with its banking and finance sectors."

Fourie said that the sales market remains sadly depressed, compared to our previous ten years of trading – "even on smaller aircraft", there were "very few sales at the moment, even on smaller aircraft." All of us in the industry in Africa need to be more creative and offer bespoke solutions to conclude deals with reasonable margin, often assuming much higher risk than before.

He gave an example of the tough trading environment where a customer ordered an Embraer Legacy 500 which would have cost ZAR 147 million (\$9.5 million), but now it is ZAR 250 million (\$16 million). This is a customer that wants to upgrade from another Embraer product but they are reviewing their delivery position "because of the massive currency depreciation, and price impact."

Another client purchased a Bell 407 but the cost of ZAR 50 million (\$3.25 million) makes it a lot of money for a seven-place helicopter to a local buyer," said Phillips. "It's twice what it was a few years ago and the [US] dollar price hasn't doubled in that time."

Phillips said that NAC deals mainly in US dollars and Euros, as many of its aircraft were "operating internationally", and had a Rand cost base as crews and other employees were mostly resident in South Africa. Thus the company has not been so exposed and has seen relief on costs.

"But one thing we've struggled with", said Fourie, "is that the cost of new aircraft, even in dollar terms, is increasing and the Rand currency depreciation rate is increasing too – so it's a divergent curve," said Fourie. "It's a problem all the Brazil, Russia, India, China and South Africa (BRICS) economies are facing." "What can make it even worse again", he added, "was when costs were denominated in dollars too, which is the case in countries such as Gabon, where they also operate."

He said that the drive to lower costs in the face of strong currencies overseas and increasing



NAC also owns Placo which is based at Rand Airport and specializes in Piper, Cessna, Beechcraft Baron and Bonanza maintenance. Parts sales, engine and propeller overhauls also forms part of Placo's offering to general aviation. NAC's Helicopter Maintenance facility, the only Rolls Royce AMO on the African continent and Helicopter Training School is also situated at Rand Airport. The Helicopter Operations Division is based at Grand Central Airport with NAC Helicopters Cape Town at the V&A Waterfront in Cape Town. Bases, and businesses at Wonderboom and Durban Airports, in Perth, Australia and Wichita in the USA completes the picture.

prices was seeing "lots of old aircraft ending up here in Africa". In the Rand, the depreciation over the past five years has been 100% - similar to the Brazilian Real. "Manufacturers don't fully realise this dilemma" said Fourie, "they are pushing fewer aircraft out and putting prices up and we don't think this is sustainable in these markets where they hope to see growth off a low base."

He also pointed out that it was even harder to make things work when interest rates were 10.5% rather than the 2-3% it is in the US. And, for the likes of NAC, it is harder as more manufacturers are trying to sell direct and bypass dealers in an attempt to recover much needed margin.

Another issue in Africa is how few people can afford aeroplanes anyway. "It's a miniscule number. So irrespective of all the economic factors, there are very few potential buyers," said Fourie. The continent's average gross domestic product (GDP) per capita is \$1,200 and there are fewer than 100,000 USD millionaires on a continent with more than a billion inhabitants. "So countries are coming off a very low base with less than 0.01 percent of the population being realistic owners."

"If I had to characterise our customers, they are mostly successful entrepreneurs rather than large corporations, and the individuals tend to be in aviation anyway, and are enthusiasts."

Another issue with Africa is its enormous size, said Fourie, and the fact that people from outside don't realise this. "The US fits inside it three-and-a-half times," he explained. "Suppliers and manufacturers don't realise how vast the distances and associated challenges are."

Fourie said that NAC was one of the launch members of the African Business Aviation Association (AfBAA) and that AfBAA has done a fleet study unique to Africa using the JetNet database. "Everyone says that Africa is this massive growth market but there were only six African registered new business jets delivered in the whole of Africa in 2014, out of 685 worldwide. That's a tremendously low number." He added that there were only 12 new helicopters delivered – although some aircraft came in on foreign registers or were leased. "But it's hard to see a real market at this stage," said Fourie.

On the flip side, he admitted that "aircraft are essential to operate in Africa – although the cost of deploying these assets is unheard of." Comparing this to the commercial airline side, he said: "Those guys will grow," as there is demand to move more people.

"But the business aviation market is not there yet. If oil goes to \$75-80 [a barrel] we'll see a splurge again but it won't be in massive numbers."

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"Second-hand sales activity in Africa is of utmost importance" - Bruno Motté.



Why second-hand is a timely

*Pre-owned ground-support system equipment could be a solution for capital-stretched African airlines and airports, as **Marcella Nethersole** discovers.*

Belgian company TCR specialises in ground-support equipment (GSE) and developed the idea of a GSE rental service back in 1999, before rental was even an option for ground handlers.

Today, TCR offers rental services (rental, repair & maintenance and fleet management) in Europe, Malaysia and the Americas. After a first period of rental, the equipment is available for the second hand market worldwide (including Africa).

"GSE is vital for airlines and the ground handlers in order to ensure that aircraft are handled in an efficient, timely and safe way," said Bruno Motté, head of the second-hand GSE department. "In this context, TCR International's second-hand department can support handlers and airports in providing cost-effective and reliable equipment with short lead-times, leaving them free to concentrate on their core competence – efficient ramp handling services and airport expansion – and so increase overall service level.

"If we look at the emerging markets, such as Africa, from a traffic perspective, we have plenty of mid/small players and newcomers looking to capture or increase market shares rapidly and at lower costs. Used GSE appears, then, as the perfect solution to grow fast at limited cost from an equipment point of view."

Africa is an important region to the company and it has delivered equipment to more than 20 countries all over the continent including: Libya,

Egypt, Kenya, Gabon, South Africa, Nigeria, Liberia, Sierra Leone, and Senegal.

Motté said its second-hand sales activity in the region is of utmost importance.

"We believe that used equipment is the perfect solution to grow fast at limited cost," he said. "Passenger and cargo traffic volumes are growing at a never seen rate in Africa and, to cope with this increase, many airports are upgrading and there are plans for more than 40 new airports across the continent. Taking this trend into consideration, there is now a need for fast implementing solutions in Africa and TCR International is definitely willing to play an active role in this."



He added that cost, reliability and fast delivery are the main drivers that will make a handler consider second-hand GSE.

"In most cases, the cost of a reconditioned unit is between 25 and 40% of the cost of a new one and can be ready for shipment in a few weeks, depending on the type of equipment. When it comes to the age or the lifespan of used GSE, all units are delivered in an operational and safe condition with a stretched lifetime, whatever the initial year of manufacturing. After major technical inspection and possible ad hoc works, old labels are removed, units are painted in the



initiative

desired colour, customer logos are applied where needed and the units are then again ready to be delivered for long-lasting operations.”

Motté finds working in Africa an easy process and is yet to face any major challenges. However, he does think it's important to gain trust and respect with any new client.

“Our business is rather straightforward: we identify GSE needs together with our customers, select the appropriate equipment, agree on the price, have equipment ready for operations and send it to its final destination,” he said. “From a logistics point of view, overseas transport is no longer an issue and our equipment can be delivered anywhere in the world. Also our inventory is the largest on the market and we have hundreds of GSE units in various types and brands available for sale at any time.

“Nevertheless, as a general rule, and perhaps more so in Africa, it is always good to meet and get acquainted with your customers and prospects to gain trust and respect.”

The company hopes that, in five years' time, it will be able to supply GSE in every single country in Africa.

“Africa represents today 15% of our worldwide sales and our intention is to double this number by the end of 2017,” said Motté. “Having at least on piece of GSE in every African country in five years seems challenging but not impossible.”

Aviation regulators, especially in Ghana, are pushing ahead to ensure certification of their aerodromes. Keith Mwanalushi looks closer at the importance of such programmes for airports in Africa.

Ghana heading the rush for certification

Earlier this year, reports from Accra surfaced that aviation regulators in Ghana were in a mad rush to have all of the country's aerodromes certified by 2017 in conformity with International Civil Aviation Organization (ICAO) standards.

Kotoka International Airport, Kumasi, Sunyani and Tamale airports are all regulated by the Ghana Civil Aviation Authority (GCAA), while Takoradi Airport is under military oversight. Kotoka International, the main gateway to Accra, was certified by the GCAA at the end of last year. The task at hand now is the certification of Kumasi, Sunyani, and Tamale – all within a relatively short timeframe.

GCAA had established mechanisms to implement an airport certification procedure to certify aerodromes and to ensure that their operators comply with the relevant ICAO standards and recommended practices (SARPs), as well as applicable national regulations.

GCAA director general, Simon Allotey, told local media that its regulation also mandated the authority to grant a certificate to the Ghana Airports Company Limited (GACL). The objective of the ICAO and GCAA regulations, Allotey indicated, was to ensure the safety of the air travellers and operators in the air transport industry.



“The national aerodrome certification seeks to achieve and maintain a higher level of safety in aerodrome operations, promote standardisation and consistency of procedures and operations, and facilitates standardisation within a state and from one country to another,” he explained.

With safety in mind, Ali Tounsi, secretary general at Airports Council International (ACI), clearly expressed that safety should be any airport operator's first priority, regardless of where in the world they were located.

“Over 2013 and 2014, we saw dramatic improvements in Africa where jet hull losses are concerned – in fact, there were zero per million flights in 2014,” Tounsi said. “This is an indication that the continent is taking safety seriously, but we still have a long way to go when it comes to maintaining a solid safety record over the long term.”

ACI has its own airport certification advisory programmes, such as the airport excellence (APEX) in safety programme. Tounsi said this was aimed to aid participants in enhancing safety levels at their airports. “Having said this, many airports are taking part in the programme because it helps them along the road to aerodrome certification,” he said.

APEX in safety is ACI's response to the industry's call to action to improve aviation safety worldwide. Tounsi explained: “It is designed to help airports identify and mitigate safety vulnerabilities through

peer review missions, education, mentoring and best practice guidance. It is an approach that is relevant for all airports, large or small, in developed, emerging or developing markets.”

Speaking on Africa specifically, Tounsi said he was pleased with the strong support the APEX programme had received from African airports: “Indeed, since the inception of the initiative, more APEX in Safety reviews have taken place in Africa than in any other region worldwide,” he reported.

While progress with certification continues in Ghana, many other African countries are struggling to keep up with international standards and requirements. Many of the challenges African airports face today are tied to shortfalls in funding and coordination.

“Funding is a challenge for most airports,” Tounsi agreed. “If we look at airport bottom lines, we can see that the airport industry as a whole is profitable, with airports posting net profit margins around 16% in 2013.”

He further identified that the challenge with most small airports was their size, which inevitably led them to become loss-making operations. “We see that 69% of airports operate at a net loss, with 93% of those being airports with fewer than a million passengers.

“Put simply, many small airports in Africa, and indeed throughout the world, operate at a loss. The resulting lack of resources makes initiatives like getting certified challenging to say the least. Safety is the foundation upon which a successful airport is built. In an era where the private sector is playing more of a role in the world of airports, a stellar safety record is a pre-requisite for investment,” Tounsi said.

Ali Tounsi: pleased with ACI support from African airports.



Aircraft accidents in Africa focus attention on the state of aviation safety on the continent. Although the region still lags behind, Alan Dron discovers that increased use of global standards is improving the situation steadily, according to two organisations monitoring the situation.

“African safety is moving in the right direction.”

African air incidents go largely unnoticed by the outside world – sadly, few people pay much attention to a couple of paragraphs at the bottom of page 19 of their morning newspaper informing them that an elderly aircraft has crashed somewhere south of the Sahara.

And, unless there are images from the scene, such incidents rarely make television news bulletins in Europe, the Americas or Asia.

To the aviation community, however, it has been obvious for years that the continent is lagging behind when it comes to standards of air safety.

Why? And what is being done to improve the situation?

There is no single reason for Africa’s relatively poor air accident record. A combination of internal conflicts, lack of regulatory oversight and slowness in adopting international standards are all factors.

However, both the International Air Transport Association (IATA) and the African Airlines Association (AFRAA) say that standards are improving.



In the second half of 2015, two accidents typified the problems facing safety professionals on the continent.

In November, a Tajikistan-registered Antonov An-12 turboprop freighter crashed immediately after take-off from Juba, South Sudan, killing 41 people on board. And, in December, an Airbus A310 freighter registered to Services Air of the Democratic Republic of Congo (DRC) overran the runway at Mjubi-Mayi in heavy rain, killing eight people on the ground when it ploughed through houses some 300 metres past the runway threshold.

Despite incidents like these, “African safety is moving in the right direction,” said Tanja Grobotek, IATA’s regional director, safety and flight operations, for Africa.

“In 2015 we saw improvements compared to the five-year accident rate for both jet and turboprop hull losses. Nevertheless, challenges to bringing Africa in line with global performance remain.”

AFRAA points to US-based Flight Safety Foundation’s statistics, which record two losses



Elderly ex-Soviet types, such as Antonov An-12 freighters, frequently feature in African accidents.

last year compared to seven in 2014. Like, Grobotek, AFRAA secretary general, Dr Elijah Chingosho, agrees that the accident trend in Africa is showing “definite improvement” over the past five years.

One notable aspect of the statistics is the number of aircraft from the former Soviet Union that feature in them.

“Indeed, each year we find some ageing Soviet types of aircraft being involved in accidents and many of them are freighters,” noted Chingosho. “Many are old.” Indeed, the An-12BK involved in the accident at Juba in November, was 44 years old.

That crash caused 41 fatalities, despite the fact that “a cargo aircraft is not supposed to carry people”, which points to a possible poor safety oversight. This could have arisen due to the conflict situation in the country. States need to carry out stringent safety oversight also on cargo and charter operations, as it appears that often their focus is on passenger aircraft.

“An analysis of the fatal airline accidents worldwide in 2015 shows that the average age of aircraft involved was about 32 years, while the two aircraft in Africa had an average age of 37 years,” said Chingosho.

“One might speculate that an operator using such old, fuel-inefficient aircraft might be lacking resources to modernise the fleet and, perhaps, also to maintain the aircraft adequately, particularly where safety oversight is inadequate.”

Grobotek was more cautious on pinning

responsibility for accidents on elderly Soviet types: “We can’t speculate on the causes of individual accidents.

“However, these and all the other accidents are sad reminders that there is still work to be done in this region if it is to consistently reach the average elsewhere in the world. And it should be said that the focus on global standards and best practices has had an appreciable effect on African air safety in recent years.”

One of those global standards is the IATA operational safety audit (IOSA), which focuses on quality assurance systems. It sounds a dry topic, but areas such as risk management, operational safety planning and corporate organisation and management systems are the building blocks from which aviation personnel construct a safer airline.

“We see a strong link between safety and operational efficiency,” said Grobotek. In other words, a well-run airline is likely to be a safe one.

“IOSA is a proven tool for raising safety. We’re working with a number of airlines in Africa to bring them into the IOSA registry.”



The benefits are immediately obvious: “Accident rates in IOSA-certified airlines are more or less the same as the world average, which clearly shows the link between IOSA registration and a good safety culture, resulting in lower accident rates,” said Chingosho. “Almost all the major African carriers have IOSA certification and those without are more or less the exception rather than the norm.”

Some carriers are too small to qualify for IOSA, so IATA has created the IATA standard safety assessment (ISSA), allowing even the smallest carriers to benchmark their safety performance.

“This programme was unveiled in Africa in June 2015 and our team has since conducted two workshops to assist all eligible operators that feel ready to start preparing for an assessment,” said Grobotek.

Looking at accident reports from recent years, two countries – the Democratic Republic of Congo and South Sudan – stand out as being responsible for most accidents on the continent.

“These are states that are involved in conflicts, making it difficult for the relevant authorities to



“Challenges to bringing Africa in line with global performance remain.”

TANJA GROBOTEK

carry out adequate safety oversight,” noted Chingosho.

“It is gratifying to note that there has been some notable improvement in safety in the DRC in the past three years or so. Around four fatal accidents annually were typical in that country. However, the authorities appear to be determined to improve the poor safety record. For example, the number of airlines on the EU banned list in that country has dropped from more than 100 three years ago to 21 in 2015.”

Grobotek agreed that the DRC Government was putting its weight behind efforts to improve aviation safety in the country: “We’ve recently returned from an official visit to the DRC where we held a series of high-level meetings with government officials. We are reassured by the country’s commitment to improve safety and security in aviation and are committed to supporting their goal through the provision of training.”

The DRC has experienced years of turmoil from rebel groups, notably in the east of the huge central African nation. Conflict makes it extremely difficult for aviation authorities to exercise proper control over airlines in its borders. Once peace is restored to a nation,

however, great advances in safety can be made, said Chingosho.

“Angola used to be one of the countries with high accident rates on the continent, when the country was involved in a civil war from 1975 up to 2002,” he recalled.

“The Angolan authorities banned the use of ageing aircraft from the former USSR around the mid-2000s. Accident rates dropped immediately. Hence, there is a need for peace and stability to allow for adequate safety oversight of airlines.”

More also needs to be done by African states to apply international standards to their aviation sectors, said Grobotek. As of January this year, just 21 of 52 audited African states complied with 60% or more International Civil Aviation Organization (ICAO) standards and recommended practices. “We would like to see national civil aviation authorities given greater resources and operational independence and, where necessary, rely on regional pooling initiatives across the continent to promote safety.

“With government commitment, adoption of global best practices and the continued vigilance and excellence of Africa’s aviation professionals, there’s no reason why Africa cannot soon match the levels of safety enjoyed in other regions of the world.”

SOMMAIRE

Du mieux dans la sécurité aérienne

Les accidents d'avions en Afrique attirent l'attention sur l'état de la sécurité aérienne sur le continent. Alan Dron a découvert que l'utilisation des normes mondiales améliore la situation.

Les incidents aériens en Afrique passent souvent inaperçus. Pour les spécialistes du transport aérien, il est évident que le continent est à la traîne depuis des années sur l'utilisation des normes de sécurité aérienne.

Qu'est ce qui est fait pour améliorer cette situation?

Il existe plusieurs facteurs pour l'expliquer : conflits internes, manque de surveillance des autorités ou lenteur dans l'adoption de normes internationales. Toutefois, l'IATA et l'AFRAA constatent que le respect des standards internationaux s'améliore. Le continent a connu au second semestre 2015, deux accidents (An-12 au Soudan et un A310 cargo en RDC).

« En dépit de ces incidents, la sécurité africaine va dans la bonne direction », a déclaré Tanja Grobotek, directeur des opérations et de la sécurité de l'IATA pour l'Afrique.

L'AFRAA cite également les statistiques de la Flight Safety Foundation. Elles enregistrent deux accidents en 2015 contre sept en 2014. Elles montrent également l'implication d'avions vieillissant de l'ex-Union soviétique. Selon Tanja Grobotek, il faut être prudent avant d'attribuer les responsabilités d'un accident à un type d'avions.

Il existe pourtant une norme efficace de l'IATA pour rendre une compagnie aérienne sûre : la certification IOSA.

« Nous voyons un lien étroit entre sécurité et efficacité opérationnelle », a déclaré Tanja Grobotek. L'IOSA est un outil éprouvé pour augmenter la sécurité et il y a un travail avec plusieurs compagnies en Afrique pour les amener dans le registre IOSA. »

Les avantages sont indéniables: Le taux d'accidents des compagnies aériennes certifiées IOSA sont sensiblement équivalente à la moyenne mondiale. Certains transporteurs africains sont trop petits pour être certifiés IOSA. L'IATA a créé en juin 2015 un programme d'évaluation spécifique appelée AISS.

En analysant les statistiques des accidents en Afrique, deux pays se distinguent comme étant responsable de la plupart des accidents : la RDC et le Soudan du Sud. Ce sont les états impliqués dans des conflits, ce qui rend difficile de procéder à une surveillance adéquate pour les autorités.

Selon Elijah Chingosho, une amélioration notable de la sécurité aérienne en RDC a été constatée au cours des trois dernières années. L'Angola est également un autre pays ayant un taux élevé d'accidents sur le continent.

Avec l'engagement des autorités, l'adoption des meilleures pratiques mondiales et la vigilance et l'excellence des professionnels de l'aviation en Afrique, il n'y a aucune raison pour que le continent puisse bientôt atteindre le niveau de sécurité des autres régions du monde.



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Zambia's aviation sector is developing at a pace despite the fact that the country has not had a national airline since the collapse of Zambia Airways. Today with the fast growing Proflight and a refocused CAA the country is seeing aviation make a significant contribution to the growth of the economy. The *African Aerospace* team of Ian Sheppard, Mark Wagner, Humphrey Nkonde, Keith Mwanalushi and Alan Warnes report from the Southern African nation.

SAFETY FIRST...

There is no doubt that Zambia has been fixing its civil aviation sector from the point, in 2009, when International Civil Aviation Organisation (ICAO) audit showed deficiencies in safety oversight.

The ICAO carried out the audit under the universal safety oversight programme (USOP), during which it recorded 98 findings.

These included failure by the abolished Department of Civil Aviation (DCA), then under the jurisdiction of the Ministry of Transport and Communication, to follow a five-phased certification procedure towards the issuance of the air operator certification (AOC).

Due to inadequacies in safety issues and the lack of an independent civil aviation authority, aircraft originating from Zambia were banned from landing in the Eurozone.

At the time of the ICAO audit, the DCA had an inadequate number of inspectors and those it did have were not properly trained.



The government has since passed the Civil Aviation Act No 7 of 2012, establishing the Civil Aviation Authority (CAA) and abolishing the DCA.

The CAA board was selected on November 19 2013 and the first director general was appointed on April 1 2014. "The government has provided material and financial support to the CAA," explained director general Gabriel Lesa. "The best industry practice is to have an independent civil aviation authority and the National Assembly has granted the CAA treasury authority to retain all the earnings and to apply them for its operations."

On February 1 2015, the CAA relocated from the Ministry of Transport to offices at Lusaka's Kenneth Kaunda International Airport. It uses hangars that were previously occupied by Zambia Airways, the national airline that was liquidated in 1994.

The CAA has recruited competent staff to carry out its oversight mandate and embarked on training programmes aimed at its inspectors complying with ICAO standards.

Zambia's regulator faced severe criticism from the International Civil Aviation Organization five years ago but, as Humphrey Nkonde discovered, the authorities are turning things around.



Gabriel Lesa: "The CAA is maturing into an effective and efficient civil aviation oversight organisation."

PICTURE: HUMPHREY NKONDE

"We have received technical support from the European Union Safety Agency, the ICAO East Africa office, the African Union's African Civil Aviation Commission (AFCAC) and the Singapore Academy," Lesa said.

"The CAA is, therefore, maturing into an effective and efficient civil aviation oversight organisation."

A civil aviation bill, which includes the latest ICAO annex standards, has since been prepared with financial assistance from the 10th European Development Fund. It is awaiting enactment by the National Assembly.

The CAA has also circulated the Zambia civil aviation requirements (ZCARS) containing the latest ICAO annex provisions and operating standards.

"ZCARS provide guidance to the industry and the CAA inspectorate staff," explained Lesa, who also showcased six

fire (foam) Carmichael Scania tenders that the Zambian Government has acquired for various airports throughout the country.

"The CAA has a robust training plan for its staff going into 2016. This is in order to equip and enable its inspectorate team to be effective and efficient in the discharge of its duties."

Lesa added: "In order to achieve safety assurance, you need a comprehensive legal framework, coupled with an effective oversight organisation, which the Zambian Government has enabled to improve safety margins in the Zambian aviation sector. This provides safety assurance to all aviation stakeholders."

As *African Aerospace* was going to press, ICAO officials were scheduled to visit Zambia on a coordinated validation mission to check the level of implementation of its standards following the 2009 audit.



Zambia has also made strides towards improving its aviation infrastructure and procedures. The Zambia Airports Corporation Limited (ZACL) has installed state-of-the-art radar systems and equipment at a cost of more than \$20 million.

"We guide aircraft throughout the Zambian airspace to ensure safety of all aircraft flying into or overflying the country's airspace," said a ZACL spokesperson.

The latest infrastructure development includes construction of a \$397 million airport in Ndola, on the Copperbelt, starting in the first quarter of this year, while improvements at Kenneth Kaunda International Airport are also under way.

Upgrades, including a new international terminal at Livingstone's Harry Mwaanga Nkumbula International Airport, have been completed.

A \$122 million tender to design and upgrade Mfuwe International Airport has been awarded to a Chinese company. Upgrades are also going on at Kasama and Mansa, while Mbala Airport, a former military airfield, is now open to civilian aircraft.



Zambian airports boss, Robinson Misitala, outlines to Ian Sheppard the current development work being undertaken at the country's main airports.

HAPPY LANDINGS FOR MISITALA'S VISION

Domestic air travel in Zambia has still not recovered to the 800,000 level it reached in 1990, according to Robinson Misitala, managing director of Zambia's National Airports Corporation Limited (NACL).

Speaking at his office at Lusaka's Kenneth Kaunda International Airport, Misitala reflected on the recent history, where 1994 saw the closure of the national carrier, Zambia Airways. For a long time traffic was suppressed, only starting to pick up again when foreign carriers, like Emirates, started serving Lusaka.

Now total traffic has reached 1.2 million passengers per annum.

This growth has encouraged the Zambian Government to approve a complete overhaul of the country's ageing airport infrastructure, with the support of various Chinese finance and construction companies.

Misitala explained that Zambia has four international airports – Lusaka, Ndola, Mfuwe and Livingstone, with Lusaka representing 80% of traffic. NACL manages and operates these facilities and has 850 staff divided between its airports and air navigation divisions.

"International growth has been consistent, apart from 2009. We're spending \$1.359 billion on airports, including \$385 million here at Kenneth Kaunda and \$60 million at Livingstone."



The Livingstone project, which included a new terminal and runway work, began in 2013 and was the first to be done, due to its importance as a tourist hub close to the Victoria Falls and Botswana – and the fact that neighbouring Zimbabwe had pressed ahead with a vast airport to replace the current Victoria Falls, around 10km south of Victoria Falls town and the waterfall itself.

"There is stiff competition [for Victoria Falls traffic]," explained Misitala.

He said that the runway had been extended from 2.3km to 3km, then to 4km. But, to complete with the new Victoria Falls Airport, "we're thinking of extending it again."

One positive development has been a new "UniVisa", said Misitala. It was launched in late 2014 and allows visitors to go to both the Zambian and Zimbabwean side of the falls – the border runs roughly down the centre of the mighty Zambezi River. (Unfortunately the UniVisa was suspended in early January 2016).

Ndola, in the Copperbelt in the north of the country, is to get an all-new airport costing \$397 million for phase 1, while Mfuwe will see \$122 million being spent.

The new Ndola Airport has not been named yet but it will have a 3,500 metre runway and capacity for two million passengers a year.

"We want a good name like 'Zambia Copperbelt Airport' that will

easily sell," said Misitala. The architects have come up with a 'diamond' theme to help brand it as the airport for the mining region and a \$122 million contract for build was awarded to Chinese concern NCEC in October. "It's a long-term loan," said Misitala.

Work on the new terminal at Lusaka started last year, design having begun in November 2013 after a contract award to a Chinese construction group. "It should be completed in 2018."

The airport will have a capacity of six million passengers a year and will also have 30 rooms in the terminal and 70 in a small hotel to handle transit passengers. The vision is that Lusaka can become a transit hub for southern Africa.

It will also have a new control tower and offices, Misitala said, leaving the existing cramped and very dated terminal for domestic traffic.

"Our thinking is that we need to create a hub that is an alternative to Nairobi and Johannesburg," said Misitala. "We're looking at having traffic now from Latin America, for example, so we really are thinking transit."

There will also be a meeting and conference facility and a fixed-base operation (FBO) as well as a VVIP terminal on the airport road for heads of state etc. "Currently everyone goes into town for meetings."

Finally there will be a shopping mall on the west side.

The Lusaka FBO site has been allocated on the other side from the passenger terminals – along from the Zambian Air Force base. Misitala said he had received four applications, to date, from parties wanting to build and operate the FBO, including Corporate Air and Royal Air Charter (both existing operators at the airport).



The airport boss believes: "There is a class of passenger we haven't seen since 1990 – they're not flying, but where are they?" He predicted: "They will come if you give them the right prices and connectivity, so we are advocating domestic tourism."

Distances are large and not many roads are good. Misitala pointed out that Lusaka to Livingstone, for example, takes six hours by road but just one hour to fly, while Ndola is three hours by road "and there are lots of trucks".

He recognised Proflight as a valuable domestic airline. "Proflight has supported us for 21 years and the airport [at Lusaka] has benefitted, but the challenge is the cost of travel." He noted that the cost of a domestic ticket in Zambia could be the same as a ticket from Europe to Cape Town – \$590.

"The one where we're really confident there's a market is Ndola," he said, adding that Livingstone tourism was such that, on Saturdays, "there are no passengers".

But, with all four main airports being "entry points", he professed confidence that services would increase to them from other parts of Africa, with services already existing between

"We need to create a hub that is an alternative to Nairobi and Johannesburg."
ROBINSON MISITALA



The new international terminal at Livingstone's airport.

Kenya, for example, and Ndola and Livingstone. "SAA is the biggest carrier, and they night-stop," he explained.

At Lusaka Misitala said: "We thought that Emirates coming in would cut SAA, but no – they're still getting their numbers. On Emirates, many are business people, and on Ethiopian and Kenyan there's a lot of ordinary people."

The air navigation division is also working to make its services more streamlined, including IT. "We want aircraft to get all the information they need in the cockpit," said Misitala. "We're already doing it with Proflight – so they can get online now and not come to our offices."

Lusaka and Livingstone now have secondary surveillance radar (SSR) facilities and other improvements to the airspace infrastructure are being planned. When I visited Livingstone's Harry Mwanga Nkumbula International Airport on a Proflight CRJ200 in November 2015, the terminal was open with just some finishing touches being made.

Misitala said that NACL is: "Working closely with the Zambian Tourism Board to promote domestic tourism – to encourage the locals to go and relax."



He then said that other airports were on NACL's radar: "We're going to Mbala [in the north, at the southern tip of Lake Tanganyika]. It's earmarked, and has been made civil now. We've just received the documents."

The airport was military and is named after Samora Machel, the young president of Mozambique, who died when the presidential Tu-134 crashed into a hillside after leaving a summit in Mbala in 1986.

Finally he said that Solwezi was being discussed. "It's not commercially viable at the moment so they may have to have government help."

Cargo traffic in Zambia has had "a terrible history" Misitala admitted, suffering, for example, when British Airways pulled its direct route from London after many years.

"Now cargo has flat-lined. We don't have BA or KLM, and only one big freight operator – Martinair."

There is also the occasional visit from Emirates Cargo, however. Much farm produce from Zambia is transported by road to South Africa – a badly needed road improvement programme has been under way for a few years now, again with Chinese money and developers.

This is one of the reasons some in the government have been pushing for a new national carrier – another reason being the perceived high airfares charged by Proflight.

With Fastjet starting up soon, however, the national carrier has been put on the back burner again and it could be that domestic aviation in Zambia will really take off again soon.

"We want aircraft to get all the information they need in the cockpit."

ROBINSON MISITALA



Humphrey Nkonde *visits the remotest of Zambia's international airports and finds a region excited by development and growth.*

Located near one of the best-known wildlife sanctuaries in the world – the 9,000sqkm South Luangwa Game Park – Mfuwe International Airport (MFU) is the smallest and remotest of Zambia's four primary international aerodromes.

The three others are Livingstone's Harry Mwaanga Nkumbula, serving the Victoria Falls; Kenneth Kaunda, located in the capital Lusaka; and Simon Mwansa Kapwepwe, which services Ndola, the provincial headquarters of the Copperbelt.

MFU is located on a trade route that the Portuguese established in the 1800s between Tete in Mozambique and Lake Mweru, which forms part of the border between the present Zambia and the Democratic Republic of Congo (DRC).

From what is now known as South Luangwa Game Park, the Portuguese killed elephants to obtain ivory for trade.

Towards the 1900s, the British took over control of Northern Rhodesia (now Zambia), leading to British game scout, Norman Carr, in 1949 negotiating with Chief Nsefu to establish a game reserve, now known as South Luangwa.

First President Kenneth Kaunda's government took over the running of game reserves, including South Luangwa, in 1972, when the state took control of means of production – a socialist concept that was championed by Zambia's first ruling party, the United National Independence Party (UNIP).

A few years later, in the mid 1970s, the government decided to construct MFU, mainly for tourists to have access to South Luangwa Game Park.

The small airport was conferred with the status of primary international airport in 1995 but, since then, the aerodrome has not seen much development.

Facilities include a small terminal building with computerised check-in counters, control tower, fire station and a 30 metre x 2,200 metre asphalt runway.

The airport also has a fire and rescue station, which has been equipped with a 4X4 Titan E-One fire (foam) tender.

Since the airport is located in a game reserve area in a thick forest, the main job for fire and rescue officers is to safeguard the facility's installations from bush fires. There is a tendency for the local people to catch mice by first burning bushes, which has led to the fire and rescue officers creating fire breaks around the airport.

Barclays and the Zambia National Commercial Bank provide banking services, including automated teller machines (ATMs) in the terminal building, while courier services are offered there by ZEGA and DHL.

The main job for fire and rescue officers is to safeguard the facility's installations from bush fires.

Luangwa River in South Luangwa Game Park provides good scenery for tourists.



WORK ON THE WILD SIDE...

Air Mufuta provides Jet A1 fuel and Avgas on the apron to scheduled charter and private aircraft.

Zambia Airports Corporation Limited (ZACL), which is custodian of Zambia's four international airports, has granted a \$122 million contract to a Chinese company to finance, redesign and expand MFU.

ZACL communications and brand manager, Mweembe Sikaulu, said that upgrades at MFU were expected to be completed in the next two years.

"The tender for the financing, design and construction of airport infrastructure was awarded to China National Complete Engineering Corporation, with a completion period of two years," she said.

A detailed report on the expansion works was not available at the time of writing, but MFU airport manager, Augustine Chalwe Malama, hinted

that the expected improvements included extending the 2,200 metre asphalt runway to 3,000 metres.

Malama also talked about extending the small apron, which is mostly used by small aircraft.

Proflight Zambia uses British Aerospace 29-seater J32 and 18-seater J41 Jetstreams for its daily scheduled flights to Mfuwe, which was its first destination when the airline was established in 1991.

Luggage is conveyed manually into and out of the terminal. Given that the airport is serviced by light planes, it is not a very big task for ZACL staff to deal with luggage on trolleys.

Future developments at MFU are justified owing to the ever-increasing number of passengers in the past six years.

MFU's highest growth rate in terms of passengers was registered in 2012, when the number of travellers increased by 13.1% from 20,848 to 23,587. The small airport had posted its smallest growth rate in 2011, when passenger numbers were only up by 71.



Proflight Zambia uses British Aerospace jetstreams to Mfuwe from Lusaka's Kenneth Kaunda International Airport.

In 2013, when Zambia and Zimbabwe co-hosted the 20th General Assembly of the United Nations World Tourism Organisation (UNTWO), passenger numbers were up 5.5%. There was another small (2.6%) rise in 2014.

South Luangwa boasts lions, elephants, leopards, giraffes, buffaloes and other animals, as well as several bird species.

Impressions of the animals have been carved from wood and placed in front of the check-in counter inside the airport's terminal building.

South Luangwa Game Park was one of the favourite holiday destinations for Zambia's first president, Kenneth Kaunda, and it was the first place President Edgar Lungu went after he

became head of state in January 2015.

President Lungu travelled to South Luangwa Game Park in order to finalise selecting his cabinet.

Since MFU relies mainly on international tourists, its weakness is that the numbers drop during the rainy season from November to April, when wild animals are obscured by tall grass.

Reduced numbers of passengers and aircraft landing at MFU during the slack period means reduced fees for ZACL.

MFU may be Zambia's smallest and remotest international airport, but the experiences gained by tourists in the nearby South Luangwa reserve are indelible and the sanctuary will continue to attract tourists for years to come.



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ZAF FUTURE SHAPED BY CHINESE CASH

Alan Warnes looks at today's modern *Zambian Air Force.*

While Zambia hasn't, in the past, appeared to face any external issues, it is aware of the terrorism threat.

A relatively peaceful country, it conducted democratic elections in 2011, which resulted in victory for the opposition Patriotic Front (PF). General Elections will take place again in August.

The government wants a modern Zambian Air Force (ZAF) to defend its own skies and also assist with UN peacekeeping missions in the Central African Republic (CAR). It has been provided with loans from the China National Aero-Technology Import and Export Corporation (CATIC) to fund much of its needs, although most appears to have been invested into the Hongdu L-15 training/close air support aircraft.

Understandably, the ZAF's training needs were among the first issues to be addressed. In late 2013, the construction of a new Air Force Academy at Mumbwa, as well as a university, was announced.

A delegation from the US National Defense University, led by Admiral Gregory Johnson (retired), visited the ZAF in mid-February to discuss training. He said that Zambia was one of the African countries that has good ties with US security forces. ZAF Brigadier General, Mathias Kiyembe, said Zambia was a developing nation and, as such, needed to work with developed countries to improve training. He added: "We have to undergo training with other air forces that are much more advanced so we can get more knowledge on how best to educate our military."

The ZAF commanders, led by Lieutenant General Eric Mwaba Chimese, do have a plan, which is not always evident in Africa. The Chinese, who have played a major part in financing many sub-Saharan African nations, are shaping its vision.

China National Aero-Technology Import and Export Corporation (CATIC) has been working with the ZAF since



1999, when the first of eight Hongdu K-8s were delivered. The jet trainers are now CATIC's most successful export, with more than 200 serving worldwide.

The seven K-8 survivors have, more recently, been upgraded to the more modern K-8P, with newer avionics. They were joined by a further eight brand new K-8Ps on March 21 2012 and all 15 are used for flying training at Mumbwa.

Six SF260TW basic trainers were delivered by Alenia-Aermacchi the same year and another six were seen at the company's Venegono plant in late December last year, but it is unclear if they have been handed over yet.

The ZAF's association with Aermacchi stretches back to April 1971, when it took delivery of the first of 23 MB 326GBs, which were retired a few years ago.

The arrival of the second batch of Alenia-Aermacchi SF260TWs may lead to the ZAF retiring its elderly Saab MFI-15 Safaris, delivered between December 1975 and January 1977. Only five of the original 20 aircraft are still airworthy but the loss of one on May 19 2014, which killed both occupants, including the ZAF deputy commander, Major General Muliokela Muliokela, may speed up the

The Zambian Air Force will take delivery of three brand new L-15s in April. Personnel are currently being trained at Nanchang in China.

PICTURE: CATIC.

Swedish trainer's demise. The accident came only five months after another fatal Safari accident.

The SF260s are used for ab-initio, basic and advanced training. Students will graduate and be streamed after flying 240 hours.

New pilots can go to the K-8P at Mumbwa if they are destined for flying fast jets, and, eventually, to the L-15 when the aircraft becomes operational.

Helicopter pilots will head to South Africa to train on the Robinson R22, while those heading into fixed-wing transport will train on Y-12 and then to MA60 or HS748.

After getting their helicopter qualifications, pilots will progress to the Bell 206, Z9 or Bell 205. After that they will step up to the bigger Mi-17 or a VIP Bell 212. Alternatively, they could be posted to the state VVIP unit flying the AW139 or AW119 Koala.

■ CHINESE JETS

In April 2014, the ZAF ordered six Hongdu L-15 Falcon supersonic lead-in fighter trainer (LIFT) jets.

The aircraft can also double up in a secondary light attack role.



Lt General Eric Mwaba Chinese takes a close look of a JF-17 simulator during a visit to PAC Kamra in Pakistan during August 2015.

PICTURE: PAC KAMRA.

With four under-wing hard-points, the Falcon could carry a maximum 3,000kg payload of several types of air-to-ground munitions and rocket pods. Two wing tip pylons allow it to carry air-to-air missiles for defensive duties.

Six pilots, along with ground crew, eventually travelled to Hongdu Aviation Industry Group (HAIG) in Nanchang, where they had completed pre-delivery conversion training by the end of 2015.

The first three jets are expected to arrive at Livingstone this month, followed shortly afterwards by the next three.

The twin-seat L-15 is powered by two Russian-made Ivchenko AI-222K-25F turbofan engines, fitted with afterburners and license-built in Slovakia. Another six L-15s are on option, which will be powered by a new after-burning engine currently being developed in Slovakia.

The ZAF has never flown a third generation aircraft before, so it brings a brand new concept – not only for the pilots but also the engineers and technicians who went to Nanchang.

With such an advanced LIFT, it is likely the ZAF will announce a deal for a new fighter soon with more funding from CATIC. It will be clearly be a brand new one

with cutting-edge technologies; otherwise the L-15 will be a pointless acquisition. The favourite is the JF-17 Thunder, a joint collaboration between AVIC and PAC Kamra. The ZAF commander and a delegation have been to Pakistan several times over the past year or so.

Last May he visited the JF-17 production facilities at PAC Kamra to take a closer view of the Block 2 derivative and, with CATIC taking the marketing lead, the odds must be stacked in its favour. However, the ZAF budgets at the moment might preclude the aircraft being acquired in the immediate future.

■ TRANSPORT

In April 2014, ZAF announced it was going to acquire a C-27J, but Alenia-Aermacchi will not confirm the purchase – only saying that an African country ordered an aircraft in 2015.

With the C-27J being an expensive tactical airlifter it would be quite a surprise, but Zambia does have form with the Italians.

The ZAF wants to rebuild the force's strategic airlift capabilities to meet the logistical needs of Zambian Army units, which are deployed to the United Nations

peacekeeping missions in the CAR.

A lack of operational airlift and tactical preparedness led to the Zambian Army delaying the deployment of 750 troops to the CAR by eight months in May 2015. The Defence Deputy Minister, Christopher Mulenga, said at the time that the deployment of troops to foreign missions was part of the country's efforts to help restore peace and security to African countries faced with instability. He added that Zambia had signed several defence agreements to reduce terrorism threats in the country.

While it flies two Chinese Xian MA-60s, acquired in 2006, it also operates a HS748, delivered in February 1971. The latter was overhauled at Rand Airport in South Africa during late-2014 and is believed to have been back in operation the following year.

The new tactical transport aircraft will help to improve the ZAF's internal airlift capabilities and the need to respond to emergency relief and evacuation requirements.

For short-range tactical airlift, the ZAF has been flying Y-12 Turbo Pandas. Five Y-12-II Twin Pandas were delivered between March 1994 and March 1996, although two were lost in accidents during 2005 and 2010. A second batch, this time of Y-12-IVs, was delivered during 2006-7 and all are believed to be in service.

■ HELICOPTERS

The bulk of the AgustaBell 205s, delivered in 1969, have now been withdrawn from use.

The first batch of five were delivered new between August-December 1969, followed by a further seven examples in May-June 1980. The remaining six have been acquired second-hand, primarily from Helibase of Cape Town. These have included three ex-Italian Carabinieri examples, delivered in September 2006, with the two most recent acquisitions occurring as recently as late 2010.

In June 2012, the ZAF took delivery of four Z9WE Haituns, after a \$105 million loan from the Export-Import Bank of China was agreed. A statement by the ZAF commander in October 2012 suggested that another four examples were to follow.



POLICE BOOSTED BY AIRCRAFT DONATION

Oscar Nkala reports on investment projects to support the Zambian police service's new air power.

The Zambian Government is investing in the construction of a new air base and aircraft hangar in Lusaka to accommodate and maintain a fixed-wing aircraft recently donated to the Zambian Police Service (ZPS) Air Wing by international development partners.

Currently, the ZPS has a single Mil Mi-24 helicopter as the main aerial policing asset. Home Affairs permanent secretary, Chileshe Mulenga, said the government had diverted money from other projects to fund the construction of the airbase and maintenance facilities after receiving the aircraft from unnamed development partners in December.

Addressing members of the Parliamentary public accounts committee (PPAC) in mid-February, Mulenga said the new air base was being built on a 20-hectare piece of land adjacent to the Zambian Police Training Academy in Lusaka. He said the government considered the project urgent because more aircraft are due to be delivered to the country within the next few months.

"Through cooperating partners, we received a donation of aircraft and, to prepare for receiving the aircraft, we needed the infrastructure to support it. It was in

that context in which we varied funds," he said. "The aircraft will basically provide police with air transport so that they can respond to emergencies much quicker than they do, especially with the increase in traffic on our roads.

"We felt that we had to move quickly to fund the construction of the air base and some police housing units after receiving the first aircraft, which made the case an emergency. Of course, this is an activity that was not budgeted for in terms of the [public funds] Appropriation Act of 2013."

Further, Mulenga said the first of the donated aircraft was presently being kept at the main Zambian Air Force (ZAF) base in the capital, pending the completion of the new police air wing base.

However, former defence minister, Godfrey Mwaanga, said the new base constituted unnecessary expenditure on the part of the government, as the Zambian police had no urgent requirements for fixed-wing aircraft.

"Dr Mulenga's explanation that police need a fixed-wing

aircraft to police road traffic does not make sense. What the police would normally require in this case is a helicopter. I don't think a fixed-wing aircraft would be in any way useful to the police," Mwaanga said.

Meanwhile, Zambian President, Edgar Lungu, has secured French support for the re-establishment of a national airline. Speaking at the conclusion of a three-day state visit to France, where he met President Francois Hollande in January, Lungu said the state-owned Zambian airline would be set up with the help of global aviation giant Airbus.

"The president is very thankful to President Hollande for promising to help Zambia set up a national airline through Airbus," said a statement from Lungu's office.

Airbus will help train Zambian pilots, provide technical support and supply aircraft and spares for the new airline.

French technical and aviation specialist teams are expected to arrive in Zambia before the end of the year to begin the process of setting up the airline.

Zambian President, Edgar Lungu, has secured French support for the re-establishment of a national airline.

Former Zambian Airways pilot, Tony Irwin, talks to Ian Sheppard about Proflight, Zambia's successful regional airline.

Zambia on the wrong flightpath

The first thing Proflight's charismatic CEO said as we started the interview – aware that we'd just come from a briefing on the country's airport development plan – was that it was “absolute madness”.

He added: “My understanding is that it's Chinese money – some kind of turnkey thing where they'll manage it. So it's not money that would be available for other things.”

With Zambia at the time (late November), as it is every year, in the grips of a drought and power cuts, the frustration was understandable.

Kariba Dam is crumbling and most nights there is no power for anyone without his or her own generator. Yet huge new airports are being built that can cope with vast numbers of passengers.



However, numbers remain small and the country's economy is on its knees, with the famous Copperbelt suffering badly from the commodities downturn.

“I can see why they're developing Lusaka, to an extent that makes sense, but the new Ndola Airport is [an expensive] greenfield project. But it looks like it's happening.”

The last time I visited (some five years ago) there was a round-table meeting with regulators and government to discuss Zambia's efforts to come off the EU blacklist – the first step being to migrate from a Department of Civil Aviation to a civil aviation authority (CAA).

Things have been delayed, however. “It's taking a hell of a long time,” said Irwin. “The CAA Act has been passed now as I understand it.”

He noted that the former director of civil aviation, Kenneth Sunga Silavwe, a former maths and physics teacher and flight instructor, now works for Proflight. Irwin also said that the CAA was getting technical support from the South African CAA (SACAA) to help train operator's certificate (AOC) inspectors, among other things.

Continued
on Page 100



“If you ask me, \$20 million spent on Mfuwe Airport would be better spent on roads and a hotel.”

TONY IRWIN



CONTINUED FROM PAGE 99

“I think we’ve got a good chance in the June review of the blacklist,” enthused Irwin.

Proflight is taking no chances, however, and has embarked on an – International Air Transport Association (IATA) operational safety audit (IOSA), headed up by Silavwe, which could give it a blacklist exemption. At the time of writing, the airline had completed all the necessary workshops and was awaiting the outcome from IATA. “We’re hoping to get [final approval] in the second or third quarter,” said Irwin.

On February 5, Proflight Zambia said in a statement that gaining IOSA certification would “help reduce insurance premiums, allow for quicker processing of new codeshare agreements, increases codeshare opportunities, provide a controlled system to share audit results, give IATA quality assurance, and bring improvement in management system and operational efficiency”.



Proflight operates a Cessna Caravan, two Jetstream 32s and three Jetstream 41s, plus a Canadair (Bombardier) CRJ200. Last November the airline was “in the process” of converting the lease [for the CRJ] into a purchase.

“We’re hoping the type will be certificated in Zambia, then it’ll go on to the Zambian register and on to our balance sheet.” It will be the first CRJ ever to sport the 9J registration.

Irwin said that Proflight looked at the Embraer 135 and 145 but they “fell foul of the banned list”.

Of the CRJ that it leased from CemAir, Irwin said: “Gee, it’s been great! We’ve been really impressed by the reliability and Bombardier have been very supportive. Their guy has visited us at least twice and they are helping us with the [Zambian] certification.”

Irwin added: “There’s a CRJ family too, so we may look at the 700 and 900 as well.”

Continuing on the aircraft theme, he said: “We recognise that turboprops are good, too, such as the Q400. They make sense for regional airlines.” He continued: “We need to find at least one more international route for next year,” while recognising that Zambia is “resource-based, so there will be a cap on demand”.

He noted that post-Ebola traffic had been slow, with a lag in the recovery. “We managed to discount and local tourism picked up the slack. Local tourism is far more resilient than international tourism, which is affected by the economic situation, terrorism etc... and any shock,” said Irwin.



It's a busy ramp for Proflight at Lusaka with a varied fleet that is expanding to reach remoter airfields.

“This will be a tough year for Zambia. The weak currency may help but most things are priced in \$US so it won’t make a huge difference. So many of our costs are dollar-denominated too; even the fuel price is tied to the dollar, as well as aircrew and maintenance. But [local] costs have declined – the commodities slump has had that one advantage.”

He said that during October/November 2015 Proflight had been “down about \$60,000 a week in revenue – so we’ve cut back quite a bit on capacity, by 28% in October”.



Irwin added that turnover was 32% down, so cuts had to be made, which resulted in keeping the average load factor at 57%. The three routes hit hardest are in the Copperbelt – Ndola, Kitwe and Solwezi. The airline reduced the number of sectors the jet was used on, down to around four a week to Ndola from the 20 or so it was doing earlier in the year. The downturn is a measure of the pain the commodities sector is experiencing.

“It shows the advantage of having a diverse fleet,” said Irwin.

With the Cessna Caravan,

Proflight is looking at adding Mbala in the north, a military airfield where the government allows commercial operations. “So we may move our northern gateway from Kasani to Mbala, which is our most resilient route, but there is no fuel there.” However, he said that the Caravan – its last one – would leave the fleet in March, as IOSA doesn’t allow for single-engine commercial operations.

“We’re also doing a study at the moment into Mpulungu,” said Irwin. “The tour operators on Lake Tanganyika have wanted us to go up there for a long time but it’s a long way from Lusaka – about 1,000km.” He said that the game is amazing up there, in the far north of Zambia, and it’s worth a drive around Lake Mweru.

Irwin gave an overview of some other routes. “The runway at Kasaba Bay was decent and there was a scheme to extend the runway to get tourism going there again – then there was a big scandal and the runway is now not usable.” He said the former national carrier, Zambian Airways, used to operate there.

Livingstone represents “a staple route”, said Irwin. “It’s important for us, and it’s a hybrid route with business and tourism. They compensate each other. We have

“Zambia has never really got a grip on tourism.”

TONY IRWIN



John Grant, *senior analyst with the air travel intelligence company, OAG, takes a look at Zambia's prospects.*



Realising the opportunity

The future of aviation markets in sub-Saharan Africa, often landlocked and with no national airline, can look bleak when considering airline survival and sustainable air services.

Yet Zambia, landlocked and currently with no national airline, is a great example of how Africa's global fortunes and market presence have changed in recent years.

While there has been the inevitable 'churn' in airlines operating and notable losses of major carriers, such as British Airways and KLM, in the last five years, there has also been notable successes, with the arrival of a daily Emirates service and, perhaps even more importantly, stable local air services from Proflight Commuter Services.

Available scheduled capacity has grown by some 20% over the last five years against a regional average of 12% for southern Africa.

Much of that capacity has been provided by established regional carriers, which recognise the strategic value of Zambia to their respective businesses.



In terms of capacity, the 'big three' regional carriers, South African Airlines (SAA), Kenya Airways and Ethiopian Airlines, provide 52% of capacity as they both serve local market demand and feed their respective hub operations.

Alongside these three carriers, Emirates, with its now daily service, will provide a further 300,000 seats this summer. This means that nearly three quarters of capacity is to major hub airports providing much-needed global access for Zambia to other markets and trading partners.

Perhaps most striking though, even accepting the regulatory and operational challenges in such markets, is the minimal level of low-cost carrier penetration in Zambia.

The current average for the International Air Transport Association (IATA)-defined southern Africa region is an unspectacular 9% share of capacity, with South Africa completely dominating that low-cost share with 98% of low-cost capacity, while in Zambia less than 2% of all capacity is provided by such airlines, ranking amongst the smallest shares of any country on the planet.

Continued
on Page 102

three flights a day [from Lusaka] in the tourist season."

With the extension and strengthening of the runway two years ago, and a new terminal now, the country hoped tour operators would fly direct. "We haven't seen any yet but Airlink, South African Airways (SAA) and Kenya Airways go in there," he added.

"Zambia has never really got a grip on tourism – so we go for low volume, high yield. There are still a lot of challenges for tourism here... but our main contribution is that we fly the people that move and shape the economy.



"If you ask me, \$20 million spent on Mfuwe Airport would be better spent on roads and a hotel," he noted as an example to highlight how priorities are wrong.

He described Lusaka-Johannesburg as "a worrying route" and noted that Airlink serves the Copperbelt direct from Jo'burg, while SAA goes four times a week and Kenya Airways daily. Proflight has a codeshare with RwandAir on Lusaka-Johannesburg. "So we're studying another [international] route," said Irwin.

On Fastjet's prospects with its imminent Zambian AOC, Irwin said:

"Fastjet say they will stimulate the market and they probably will, but the fundamentals are still against a full-fledged low-cost carrier (LCC). Our gross domestic product (GDP) is \$2,000 per head and, although there's no doubt we have a fast growing middle class, the population is only 14 million."

But the economy has been growing fast, averaging 7% for five years, so that it has doubled in that time. "But the brakes are on now," he warned. "And they've probably spent too much on infrastructure but the government can't provide power for such a fast-growing economy. We had drought last year and El Nino now, but they should have done something 10 years ago."

Irwin commented on third-country carriers coming into the market. "We've fought for the fifth freedom rights of Emirates, etc, to Harare to be removed – we employ far more people than them and those employees all pay Zambian taxes. It helped when Kenya Airways was blocked from Lilongwe by Malawi (when it was starting Malawian Airlines with Ethiopian)."

Finally, he said that there had been lots of talk and an on-going study (since shelved) to recreate a national airline. He said that he was willing to talk to the government "about teaming up".



CONTINUED FROM PAGE 101

In 2015, the total market to, from and within Zambia was estimated at some \$202.3 million, of which \$109.6 million (54%) was generated from within Zambia. With an average yield per passenger of \$204 from all markets and a Zambian average yield of \$211, there is clearly both considerable value in the market and perhaps scope for further stimulation with yields appearing quite high.

For the major hub carriers, using OAG Traffic Analyser, we have extracted the key country markets and traffic flows.

While there are some common connecting markets for many carriers, such as the United Kingdom, it is interesting to note how each airline and their respective hubs serve slightly different connecting markets.

In the case of Johannesburg and SAA, the top three long-haul connecting markets all capitalise on the geographic advantage and subsequent shorter elapsed journey times offered to those destinations.



Equally, Ethiopian has established an enviable share of the China market, carrying twice as much traffic to that destination as Emirates for example; something that not many airlines are able to achieve.

However, for Kenya Airways, the very well established UK market contributes the largest single source market amongst the four airlines, with more than 10,000 passengers, although closely followed by India.

Looking at the available traffic data at a more granular level, it is possible to identify the top five markets that are currently unserved from Lusaka and, therefore, worthy of consideration for new services.

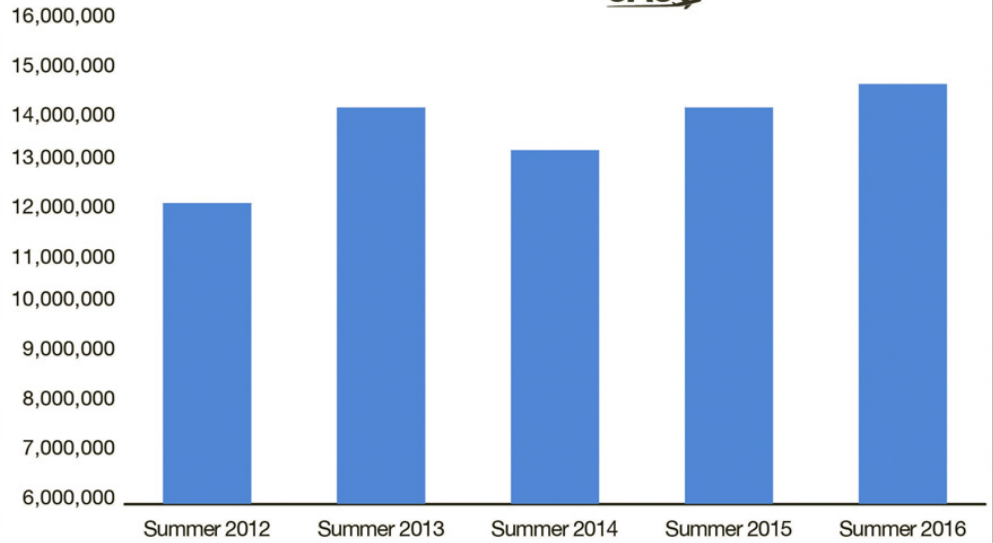
It is perhaps no surprise, given the historic links, that London remains the largest unserved market with some 35,869 passengers travelling indirectly in 2015.

London is followed by Cape Town, Mumbai, Beijing and Entebbe.

While in the case of London the unserved market would appear quite large, the reality is that allowing for passengers inevitably choosing other options aside from a direct service, the current demand probably would not support the reinstatement of a direct service where, even on a three times weekly B777-200 operation, some 70,000 seats per annum would be supplied.

ZAMBIA SCHEDULED CAPACITY – SUMMER 2012-2016

Source: **OAG** schedules analyser



Airline	Total Connecting passengers 2015	One	Two	Three	Four	Five
South African	141,307	USA 5,399	Australia 5,316	Mozambique 3,835	Brazil 3,326	UK 3,315
Ethiopian Airlines	108,629	China 9,966	India 8,412	UK 5,584	USA 3,551	Germany 2,208
Kenya Airways	92,035	UK 10,653	India 9,849	Tanzania 4,821	Uganda 3,939	Netherlands 3,875
Emirates	71,640	UK 5,771	China 4,016	USA 3,889	India 2,821	Germany 1,168

However, certainly Cape Town and perhaps Entebbe could be seen as potential targets for new air services in the next few years, particularly if operated in a low-cost business model, while a service via an intermediate point to Beijing should never be discounted given the on-going Chinese investment in sub-Saharan Africa. And of course, there seems a general pattern that where Emirates flies, another Middle East carrier will follow!



So, Zambia may be land-locked, sub-Saharan and lacking a national carrier, but analysis suggests that the market certainly has the foundations for future growth in the coming years.

Top: Available Scheduled Capacity To/From and Within Zambia, Summer 2016.

Above: Using OAG Traffic Analyser for the major hub carriers, the Chart, summarises the key country markets and traffic flows.

Macro-economic factors have probably suppressed some opportunities for growth in the last five years as the price of copper, which accounts for around 70% of Zambia's hard currency earnings, has halved in global markets.

Such a loss of earnings rapidly focuses attention on alternate sources of overseas income and, in markets such as Zambia, that focus has been on inbound tourism, a source of significant potential for airlines serving the market.

Supplement that change of industry focus with the existing lack of low-cost capacity and subsequent traffic stimulation that such carriers bring to a market, and it may just be that Zambia is ideally placed to grow its aviation market in the next five years and realise its wider potential within southern Africa.

Zambia may be ideally placed to grow its aviation market in the next five years.



Humphrey Nkonde takes a look at the Zambia Air Services Training Institute (ZASTI) and finds an organisation in the process of rebuilding for the future.

Students really flying at ZASTI

Zambia is on the way to reviving its aviation industry, which collapsed after the government-owned Zambia Airways was liquidated in 1994.

The Zambian Government has called for the revitalisation of the Zambia Air Services Training Institute (ZASTI), is upgrading or constructing new airports, and has incorporated Zambia Airways 2014 Limited to serve as a national flag-carrier.

ZASTI was established in 1968/9, shortly after Northern Rhodesia (now Zambia) gained independence from Britain on October 24, 1964.

It provided human resource for the aviation industry at the time when Europeans handed over most of the management positions to African administrators.

ZASTI's vision is to be a centre of excellence in aviation training in the sub-region and beyond by the year 2030. Its mission is to effectively provide training and support services in order to contribute to safety and the growth of the aviation industry in Zambia and the sub-region.

It has three departments – flying, ground services, and aircraft maintenance engineering – from which 400 to 500 students graduate every year.

The flying school trains pilots, while the ground services department offers courses

in air traffic management, aviation security, meteorology and fire and rescue services.

From the engineering section, students are trained in aircraft maintenance, aeronautical electronics, systems engineering, computer systems engineering, hardware maintenance and repair, as well as local network administration.

In 1988, the Southern Africa Development Community (SADC) conferred ZASTI with a status of training aviation professionals for member states.

The International Civil Aviation Organization (ICAO) sponsors some of the foreign students, while the institute's trainers are sometimes hired to do on-site training in aviation courses in other African countries.

“We have conducted on-site training for aviation staff in Rwanda,” said ZASTI principal Billieard Shingalili, who was an air traffic management student at the institute from 1974 to 1975 and who advanced to a radar instructors' course in the United Kingdom in 1976.

Pilot training is expensive due to the cost of aviation fuel, acquisition of appropriate aircraft, maintenance, and upkeep of the hangars etc.

Liquidation of Zambia Airways in 1994 meant reduced investment in pilot



Billieard Shingalili: “We have not trained commercial pilots for more than 20 years.” Top: students are trained in aircraft maintenance, aeronautical electronics, systems engineering, computer systems engineering, hardware maintenance and repair, as well as local network administration.

Continued
on Page 104



CONTINUED FROM PAGE 103

training. Consequently, the lack of appropriate aircraft means that ZASTI can no longer train pilots at commercial licence level.

“We are only training at the private licence level,” Shingalili explained, adding that those who wish to take advanced courses at commercial pilot licence level have to go to other countries, including South Africa and India.

Low government salaries have also led to ZASTI losing full-time instructors.

“We use part-time instructors at private licence level,” explained Shingalili. “We have not trained commercial pilots for more than 20 years.”

ZASTI has a single-engine Cessna 152 and a twin-engine Piper Aztec (PA-23) that are used to train pilots. It has entered into an agreement with Chimes Aviation Academy India so that pilots trained at private licence level can do further courses there.

Chimes, a multi-venture organisation, has international footprints with key interests in aviation, technology, business services and education in aviation, which includes pilot training.

ZASTI’s other important course is fire and rescue. Former ZASTI students use E-One Titan 4x4 fire (foam) tenders at Kenneth Kaunda, Simon Mwanza Kapwepwe, Harry Mwaanga and Mfuwe international airports.

Although the fire (foam) tender at Mfuwe serves small planes, with expertise offered by ZASTI graduates, it is capable of rendering fire and rescue services to larger aircraft, such as the DC 8 or Boeing 727s.

Beyond training, ZASTI has entered into a joint venture with Aerotech Zimbabwe to operate aircraft maintenance in Lusaka.

Aerotech Zimbabwe, with more than 50 years of aircraft maintenance experience, has been recognised in that category by the South Africa Civil Aviation Authority, the Civil Aviation Authority of Zimbabwe, and similar authorities in Malawi and Zambia.

Zambia does not have a company that can do advanced maintenance works, such as aircraft overhauls or modifications.

ZASTI, located at Lusaka’s Kenneth Kaunda International Airport, has a

“The public private partnership ZASTI has with Aerotech Zimbabwe is welcome because there is no company in Zambia that can complete aircraft overhauls.”

BILLIEARD SHINGALILI

hangar from where aircraft maintenance would be done.

“The public private partnership ZASTI has with Aerotech Zimbabwe is welcome because there is no company in Zambia that can complete aircraft overhauls,” said Shingalili. “Work will include overhauls on small and medium-sized aircraft.”

Aerotech Zimbabwe can rebuild aircraft with a maximum weight of 5,700kg, can do radio installations, instrument calibration, adjustment and compensation of magnetic compasses and piston engine component overhauls, among other work.

It has specialised in maintaining Bell 206 helicopters and can also complete exterior work on aircraft, such as spray-painting and corrosion protection, on top of interior refurbishment.

In order for ZASTI to achieve its ambition of being a centre of excellence in aviation training in the sub-region and beyond by the year 2030, government has promised to acquire aircraft, simulators for pilots and other needs for the institute.

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How we can navigate a

African Civil Aviation Commission (AFCAC) secretary general, Iyabo Sosina, explains to Keith Mwanalushi what the future holds for air traffic management across Africa.

Organisations such as the Civil Air Navigation Services Organisation (CANSO) have expressed cautious optimism that Africa is experiencing a greater willingness among states and industry partners to make real progress on the challenges facing aviation and air traffic management (ATM).

Recent announcements across the continent are testament to the on-going drive to improve ATM systems.

For instance, Air Traffic and Navigation Services SOC Limited (ATNS) in South Africa is assisting its Namibian counterpart to migrate from the traditional manual aeronautical information system to an International Civil Aviation Organization (ICAO)-compliant automated aeronautical information management service.

ATM issues were also high on the agenda at the 25th plenary session of the African Civil Aviation Commission (AFCAC), in Cairo, Egypt.

The AFCAC secretariat made a presentation showing how performance-based navigation

(PBN) approaches were being used with vertical guidance (APV) systems to reach ICAO requirements that could enhance the safety and efficiency of ATM in Africa.

“The plenary urged member states to expedite the full implementation of PBN regulatory oversight by making use of all available resources,” explained AFCAC secretary general, Iyabo Sosina.

She said the plenary also recommended that African states should consider the global navigation satellite system technology available to support APV approach procedure, while conducting their cost-benefit analyses.

Furthermore, the AFCAC secretariat, in its 2014-2016 strategic plan, highlighted the future development of air traffic management in Africa and emphasised its readiness to assist African countries in the establishment of their national aviation system block upgrade (ASBU) module implementation plans.

“In this regard, the plenary session called on ICAO to develop guidance material on ASBU



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route to improvement

methodology, including business case analysis and development; and also to organise more seminars and workshops in the region on ASBU modules implementation,” Sosina continued.

The ICAO council president, Dr Olumuyiwa Benard Aliu, also addressed the Cairo gathering, adding weight to the ATM momentum.

He said: “ICAO has established global plans for aviation safety and air navigation for the next 15 years, with clear targets and timelines for states to adhere to, but we must also ensure sufficient numbers of skilled personnel are in place to ensure that any progress made is sustainable and effective over the longer term.”

A critical challenge that Aliu recognised is safe and efficient Africa-wide air navigation and airport capacity. He said required infrastructure in some areas had not kept pace with the rapid increase in aircraft movements and passenger volumes, not to mention anticipating the projected doubling of traffic worldwide over the next 20 years.



ICAO and AFCAC are currently collaborating to promote the implementation by African states of PBNs to achieve operational performance improvements through 2028. “African air navigation service providers should continue to work together to establish a regional framework supporting strategic improvements to the quality, safety and efficiency of the air navigation services available in African airspace,” Aliu stressed.

AFCAC officials are under no illusion that challenges will persist in the quest to achieve ATM-related goals. Sosina is aware that financial resources are definitely key issues for some African states when supporting the development of their air navigation services.

“To reduce the impact of shortfalls in funding for training of African aviation professionals, the secretariat of AFCAC, in conjunction with ICAO and other partner states and agencies, is promoting a human resources development fund, which is aimed at providing the enhanced air traffic management on the continent,” Sosina elaborated.

AFCAC is also enhancing technical cooperation with major aviation stakeholders in order to meet the needs of the continent in the field of air traffic management. She added: “The secretariat of AFCAC, in conjunction with the regional economic communities of Africa, is also expected to develop strategic partnerships to assist African states ensure a safe, efficient and sustainable ATM on the continent.”

In a related development, Aireon, the company that develops space-based global air traffic surveillance systems, estimates that more than 70% of the world’s airspace is outside of any real-



“The secretariat of AFCAC, in conjunction with ICAO and other partner states and agencies, is promoting a human resources development fund, which is aimed at providing the enhanced air traffic management on the continent.”

IYABO SOSINA

time air traffic surveillance, limiting it to mainly terrestrial and densely populated areas. This leaves the vast majority of remote, oceanic and mountainous regions without any real-time aircraft monitoring.

Back in South Africa, ATNS and Aireon are in agreement to enable real-time air traffic surveillance throughout South African airspace. It’s believed once Aireon’s service is operational in 2018, the increased area of surveillance should allow not just South Africa but the other African neighbours to improve safety and air traffic efficiency.



According to a statement from ATNS: “Aireon is providing the global air transport industry with a vital piece of technology that will greatly enhance air traffic management. Much of Africa is currently without any air traffic surveillance. Aireon’s service will give us visibility into many regions, allowing us to facilitate seamless transitions between air traffic control providers. This will be achieved without any additional

ground infrastructure and utilising currently-mandated on-board avionics.”

In the meantime, implementation of the ICAO’s ASBU continues and is an important step towards the harmonisation of Africa’s skies. ASBUs are seen as the best opportunity to transform ATM performance in Africa and help address the lack of infrastructure and air navigation services in remote areas.

Zambia is one country vigorously pursuing its ASBU plan. This is being overseen by the Zambian Civil Aviation Authority (CAA) and is expected to be established before the end of 2017.

Zambia is currently undertaking \$200 million expansion work on its four international airports in Lusaka, Ndola, Livingstone, and Mfuwe to meet new international requirements. Once implemented, the system should ensure the interoperability of all the operations at every level of the airport system.

Looking ahead across the continent, Sosina reports that the meetings in Egypt approved AFCAC’s strategic objective on safety and called for the enhancement of a strong civil aviation safety system in Africa.



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Alan Warnes looks forward to the Marrakech Air Expo, which will take place at the military air base on the other side of the international airport, from April 27-30.



Morocco's showcase

Held biennially since 2008, the Marrakech Air Expo is the only real opportunity to see the current aircraft of the Royal Moroccan military in action.

In 2014, there were 70 aircraft on display, with another 55 in the daily flying displays. The show attracted 150 exhibitors, of which 75% were international companies. There were also 14,450 trade visitors from 56 participating countries. It's a good event.

The air show, hailed by the organisers as the window into north Africa, has never really lived up to that claim. No other air forces from the region send aircraft. It is all about Morocco.

Morocco has a strained relationship with its Algerian neighbours, due mainly to the disputed land in the southern Sahara. It means the Royal Moroccan Air Force (RMAF) continues to invest and train thoroughly for any eventuality.

The biggest purchase for 24 new Lockheed Martin F-16 Block 52s cost \$2.4 billion and was announced on May 30, 2008, four months after the first show was held. The outlay far outweighed the cost of the jets, because the RMAF purchased additional add-ons as well as the re-building of the former US base at Ben Guerir, once used as a NASA Space shuttle emergency landing site.

The facility was re-opened in mid 2009, a couple of years before the F-16s arrived. Cubic Defense Systems announced on April 11, 2014 that it had won a \$5 million contract to supply the P5 combat training system to the RMAF. It allows

the F-16 pilots to train in air-to-air combat when their jets are equipped with P5 pods.

RMAF F-16s have been participating in Yemen operations since March 2015, bombing rebels there who have overthrown the government. They are working alongside several Middle Eastern air forces, including Bahrain, Kuwait, Saudi Arabia and the UAE, flying combat operations from Khamis Mushayt and Taif, based in Saudi Arabia.

A RMAF F-16C – serial number 08-8008 – was lost on May 10 in an incident that also claimed the life of the pilot.

Another recent purchase has been eight Thales AN/MPQ-64F1 Sentinel radars. Morocco's combat aircraft are net-centric and have been integrated by datalink with the new ground radars

The Mirage F1s and F-5s have been put through impressive upgrades in recent years. However, the RMAF will probably be looking at a replacement for the F-5s, which they have been flying for more than 30 years, in the not too distant future.

On the training side, the RMAF purchased 24 T-6C Texan IIs in a \$185 million contract in September 2009 to replace the elderly T-34s. They are all now operational at Marrakech, where the Centre d'Instruction au Pilotage (CIP) is located. The facility, which also screens the pilots on several AS 202 Bravo aircraft, has been modernised in recent years, too.

Multi-engine flying training takes place at Kenitra, with several old King Air 100 and 200s, which the

RMAF continues to use despite their age. It is likely that they will soldier on for the foreseeable future.

Pilots can progress to flying the C-27J (4), C-130H (13) or Bombardier 415 fire-fighting aircraft (5).

The RMAF has tended to overlook its helicopter fleet. There has been a lot of pressure on the ageing Puma fleet since the CH-47Cs were withdrawn from use around 2009. This has been partly alleviated by the purchase of three CH-47Ds (CN-ALJ, CN-ALK, CN-ALL) from ex-US Army stocks. They were refurbished by Columbia Helicopters in Oregon and shipped to Morocco in August 2015. They are now flying from Rabat-Sale, where most of the helicopter fleet, including the stored CH-47Cs, are housed.

The elderly fleet of AgustaBell 205, AB206, AB212, Gazelles and Pumas, have all been in service for more than 30 years – fulfilling light attack duties, transport, training and agricultural sprays. They are beginning to show their age and, at the last event in 2014, Bell Helicopters was keen to market its AH-1Z Zulu gunship and UH-1Y Venom utility helicopter.

The US company is keen to stress the commonality of the two new platforms. Nothing has materialised since then but Airbus Helicopters and Finmeccanica Helicopters (formerly AgustaWestland), will surely be there when the RMAF does eventually issue a requirement.

The navy and gendarmerie, which also attend the event in big numbers, are sure to get involved in any helicopter purchase.

Le Maroc a conforté sa position de base aéronautique la plus compétitive à la porte de l'Europe en attirant des entreprises comme Thales, Eaton, STELIA Aerospace ou récemment Hexcel. Vincent Chappard tâte le pouls de l'industrie aéronautique dans le royaume.

LA VITALITÉ DU MAROC

Depuis plus de quinze ans, le Maroc a mis en place un ensemble de mesures spécifiques destinées pour attirer les investisseurs. Le début des années 2000 vit l'implantation d'équipementiers aéronautiques et des PME françaises, avec notamment six filiales du Groupe Safran, Zodiac Aerospace, Daher... De grands groupes internationaux et Nord-Américains s'y sont également installés depuis 2014 à savoir Bombardier, UTC, Eaton, STELIA Aerospace, Alcoa, ou encore Latecoère.

« Le Maroc a enregistré une croissance de l'activité et des emplois de plus de 15% en 2015. Nous entrons aujourd'hui dans une nouvelle phase de développement du secteur aéronautique avec pour objectif de doubler le nombre d'investisseurs et tripler le nombre d'emplois tout en intégrant les acteurs locaux », affirme Hamid Benbrahim Al Andaloussi, président du Groupement des industries marocaines aéronautiques et spatiales (GIMAS).



Selon le GIMAS, 60 à 70% des acteurs du secteur aéronautique présents aujourd'hui au Maroc ont achevé les extensions de leurs activités ou réfléchissent à le faire pour accompagner leurs montées en cadences. De grands projets de STELIA Aerospace, MATIS Aerospace Hexcel et Thales ont ainsi vu le jour.

STELIA, filiale d'Airbus et leader des aérostructures d'avions en Europe, a lancé la construction d'une nouvelle usine sur la zone franche aéronautique Midparc à Casablanca. Elle prévoit d'investir 40 millions d'euros et de créer 400 emplois d'ici 2020. Cette unité va produire des composants métalliques et des sous-ensembles notamment pour les programmes A330 et A320 NEO. Selon les déclarations de son directeur Cédric Gautier à la presse, l'entreprise n'aurait pas pu gagner ses marchés sur les Airbus A320 NEO ou l'A350 sans l'appui de ses implantations en France, au Maroc ou en Tunisie.



Hamid Benbrahim Al Andaloussi: "Nous entrons aujourd'hui dans une nouvelle phase de développement du secteur aéronautique."

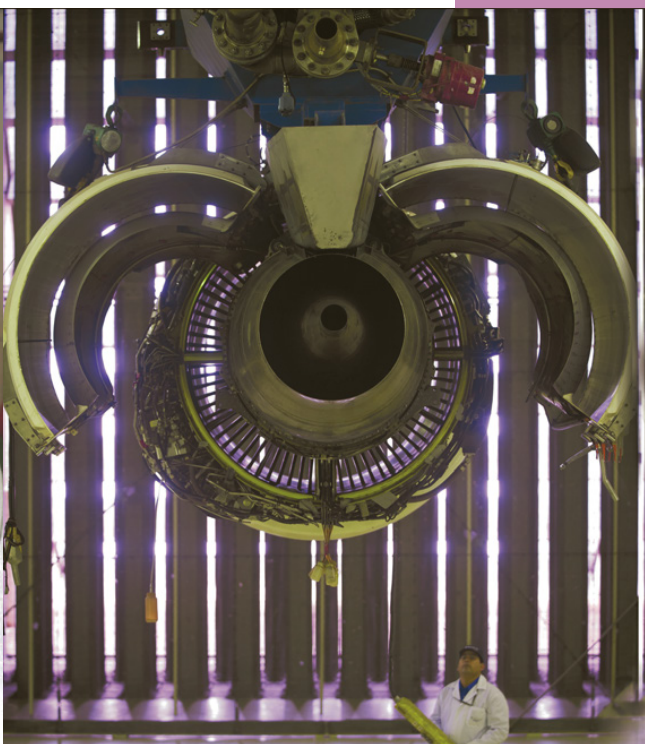
D'autre part, MATIS Aerospace (société commune entre Labinal Power Systems et Boeing) a posé la première pierre de l'extension de son usine marocaine à Casablanca voici un an. Cette société est spécialisée dans les systèmes d'interconnexion de réseaux électriques. Elle produit plus de 110 000 câblages par an. Elle s'agrandit pour accompagner l'augmentation de charge de Boeing et créera à terme 400 nouveaux postes pour atteindre 1 200 emplois d'ici 2018. MATIS Aerospace lancera prochainement la production de harnais pour le moteur LEAP et des harnais électriques pour les avions de la famille Boeing 737, 777 et 787.

Le groupe français de défense et de hautes technologies, Thales, a également annoncé le 8 décembre 2015, la création d'un centre de compétence pour la fabrication additive métallique appelée « impression 3D » à Casablanca. Le projet démarrera en 2016 et l'usine de production « par impression 3D » sera en production en 2018.



Il n'y a pas que les groupes européens qui s'implantent désormais au Maroc. L'industriel américain Hexcel a annoncé en janvier 2016 la construction d'une nouvelle usine de 10 800 m² dans la zone Midparc. Elle devrait être opérationnelle à la mi-2017 et comptera d'ici 2020 un effectif de 200 personnes. Hexcel est un leader mondial dans le domaine de la fibre de carbone et des matériaux composites destinés aux avions commerciaux et militaires, aux hélicoptères, aux moteurs, aux satellites et aux dispositifs de lancement. Cette usine sera un des centres d'excellence technologique dédié à la famille de produits « Engineered Core », dit à nid d'abeille.

Selon Nick Stange, le PDG d'Hexcel, « cette usine permettra au groupe de capter des marchés et de fournir davantage de produits destinés aux moteurs, aux nacelles ainsi qu'à des fabricants d'aérostructures. Nous prévoyons de consolider notre partenariat avec nos principaux clients en Europe, au Moyen-Orient, en Afrique et en



De gauche à droite: Le groupe américain Hexcel lance sa nouvelle usine au Maroc: Conception de harnais dans l'usine de Matis Aerospace à Casablanca (copyright A. Sentissi / Labinal Power Systems); Moteur CFM56-7B au banc d'essais chez Snecma Morocco Engines Services; Stelia Aerospace pose la première pierre de sa nouvelle usine au Maroc.

Amérique du Nord à travers ce nouveau centre d'excellence ».

La croissance du secteur aéronautique au Maroc fait face à de nombreux défis en particulier celui de la formation de personnels qualifiés. L'Institut des métiers de l'aéronautique (IMA) s'avère ainsi un acteur incontournable.

« L'IMA est un atout majeur pour les investisseurs qui démarrent la formation de leurs opérateurs avant même le lancement de leur activité », rappelle Hamid Benbrahim Al Andaloussi. « Sans l'IMA, il n'y aurait pas eu d'industrie aéronautique au Maroc ». L'extension de l'IMA a été décidée en 2015. L'objectif est de passer de 500 à 1000 stagiaires formés annuellement, voire 1200 dans les secteurs de la chaudronnerie, du câblage ou des composites. L'IMA symbolise la réussite d'un partenariat public-privé. L'institut va doubler sa capacité de formation en 2016 sur une gamme plus large de modules.

Les perspectives s'annoncent florissantes pour le secteur aéronautique au Maroc.

En 2016, le GIMAS projette d'attirer plus d'une vingtaine d'investisseurs étrangers et de PME locales intégrées. « A l'horizon 2020, nous comptons attirer une centaine de nouvelles sociétés aéronautiques et franchir la barre des 35 000 jeunes Marocains formés. »



Le GIMAS a ainsi signé des contrats de performance en aéronautique avec les ministères de l'Industrie et des Finances dans le cadre du plan d'accélération industrielle. Les autorités marocaines ont déjà identifié quatre premiers écosystèmes aéronautiques (l'assemblage, l'EWIS, la MRO et l'ingénierie). Chacun a une feuille de route pour l'horizon 2020 visant à transformer l'économie du royaume. Ils contribueront d'ici 2020 à créer 23 000 nouveaux emplois, soit le triple de l'effectif actuel.

Le secteur aéronautique marocain est parfois victime de son succès et attire les convoitises. Selon la presse marocaine, Bombardier Maroc a dû faire face à sa première grève. Même si cette situation reste marginale, la rentabilité des investissements des groupes étrangers installés au Maroc dépendra aussi de leur capacité à gérer les conflits avec les employés. On assiste également à une sorte de « pillage » des ressources humaines au Maroc. Des opérateurs du Moyen-Orient viennent embaucher des jeunes formés par les autorités et les industries locales, leur proposant de meilleurs salaires.

La mondialisation concerne l'Afrique de plus en plus. L'industrie aéronautique est un des secteurs qui tirent le Maroc dans la mondialisation. Ce secteur d'avenir surtout pour les jeunes participe à la modernisation du royaume. Et, le Maroc mise sur l'investissement privé pour jouer pleinement cette carte.

C'est un chantier prioritaire et durable.

all in a day

PEOPLE / PERSONNES

David Chawota

Marcella Nethersole *speaks to the general manager of the Civil Aviation Authority of Zimbabwe (CAAZ).*



1

■ What new things are happening at airports across Zimbabwe?

The authority operationalized a new four-kilometre runway, air traffic control tower and an international passenger terminal at Victoria Falls International Airport at the end of 2015.

Works for the construction of a new fire station and a water tower are on-going. The project will be commissioned in the first half of 2016.

We also managed to renovate Buffalo Range Airport through a tripartite arrangement with Tongatt Hullet and the Malilangwe Trust, and the newly refurbished airport opened its doors on November 19, 2015.

Works on the rehabilitation of Harare International Airport runway are still on-going.

2

■ As tourism is picking up to a very steady growth in Zimbabwe, how will CAAZ cope with this?

We are delighted with the growth that is taking place in the tourism industry and this is the reason why we have made a huge investment at Victoria Falls International Airport, which we view as the regional tourism hub of Southern Africa.

The expansion works resulted in an increase in airport terminal passenger capacity and the accommodation of wide-body aircraft.

The sprucing up of Buffalo Range Airport was also a realisation of the positive trends taking place in the tourism industry.

3

■ With more airlines coming into the country, what about oversight?

Conducting oversight on airlines is an international practice.

All ICAO-contracting states agree to certain principles and arrangements in order that international civil aviation may be developed in a safe and orderly manner. This requires that all civil aviation operations be conducted under internationally accepted minimum standards, procedures and practices.

Zimbabwe has established and is implementing a system that enables it to satisfactorily discharge its international obligations. Through the enactment of the Civil Aviation Act, Zimbabwe established the CAAZ, which is charged with the responsibilities concerning civil aviation matters.

Zimbabwe also undertakes to adopt measures to ensure that every aircraft flying over, or manoeuvring, within its territory must comply with applicable rules and regulations. As such, it controls and supervises all aircraft operations conducted within its territory.

All air operators registered in Zimbabwe undergo a rigorous five-phase certification process before being granted an air operator certificate (AOC).

4

■ What is safety at your airports like?

The requirement and implementation of safety management systems at our airports has resulted in them maintaining very high safety levels.

The safety management systems are reviewed periodically to ensure compliance with the required standards. All our airports hold runway safety team meetings with operators. This enables the airport authorities to discuss and address issues concerning safety.

Safety oversight inspections and audits are conducted regularly by the regulatory department to ensure compliance with the required standards. In addition, we have adopted results-based management (RBM) as a means of performance measure for the organisation and safety is the main key result area.

5

■ Are there any licensing problems?

As all prospective air operators undergo the five-phase certification, the process requires strong financial back-up, as some of the requirements that need to be fulfilled are costly – for example, demonstration flights.

During the certification process, a demonstration flight is required so that we are able to check on the capability of the operator to conduct its proposed operation. The operator has to demonstrate that it has a proper organisation, facilities, equipment and training to properly carry out revenue flights.

A demonstration flight is a non-revenue flight and, therefore, most air operators find it a bit difficult to fund the exercise, though eventually they have to fulfil all the requirements.

6

■ What does Zimbabwe need from the aviation community?

Zimbabwe needs a hybrid of reliable airlines with wider network coverage, which will give choice to the travelling public.

● We are delighted with the growth that is taking place in the tourism industry and this is the reason why we have made a huge investment at Victoria Falls International Airport. ●

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