



AFRICAN AEROSPACE

THE MAGAZINE FOR AEROSPACE PROFESSIONALS IN AFRICA

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UPHILL BATTLE

«DE LA RETRAITE AUX
COMMANDES DE TAAG ANGOLA»

FROM RETIREMENT TO THE
TAAG TEAM CHALLENGE
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The world should have looked and learned from a tragedy

The tragic crash of a LAM Mozambique Embraer 190 in Namibia two-and-a-half years ago led to death of all 33 people on board. The accident investigators in Namibia have now confirmed what many believed at the time, that the crash was deliberately caused by the aircraft's 49-year-old captain.



Victoria Moores' assessment of the report relives the chilling final minutes of the flight. This was a new aircraft operating with an airline that had effective safety processes in place.

The crash was barely reported outside of Africa. After all, the airline was on the European banned list and the theory of a pilot suicide was shrugged off as being something that happened in Africa.

The failure of the aviation industry to react may have cost other lives.

Sixteen months later, Germanwings Flight 9525 took off from Barcelona-El Prat Airport in Spain to Düsseldorf Airport in Germany but crashed in the French Alps after a constant descent that began one minute after the last routine contact with air traffic control. All 144 passengers and six crew members were killed.

The crash was deliberately caused by the co-pilot, Andreas Lubitz, who had previously been treated for suicidal tendencies and been declared "unfit to work" by a doctor.

The Namibia enquiry into the LAM accident said the captain, Herminio dos Santos Fernandes, had gone

through numerous personal crises before the crash, including a divorce, the suspected suicide of his son, and a daughter needing heart surgery.

The Germanwings accident has led to an immense study into the pilot's mental (rather than physical) readiness to work. But lessons could have been learned from the LAM crash – and should have been.

As Africa is fighting to improve its approach to aviation safety, the rest of the world should take note and be prepared to learn from these events and not just shrug them off with "well, that's Africa".

■ On a brighter note, I was delighted to have been invited to chair the Nigerian Business Aviation Conference in Lagos. There has been some really positive moves in Nigeria in relations with government and with the media.

Segun Demuren and his EAN team did a great job in hosting Nigeria's mainstream media the day ahead of the conference for 'open' discussions about the myths and the reality of business aviation. And at the conference, how refreshing it was to hear Government officials talk about the clamp on corruption that has sullied that country's reputation for so long.

Journeys of a thousand miles begin with a single step. The Nigerian business aviation community has taken a large one – and I was honoured to be a part of it.

Alan Peaford, Editor-in-Chief

■ The publisher and editorial team of African Aerospace extend their condolences to the families and crew of EgyptAir MS804 which crashed into the Mediterranean Sea on May 19.

COVER: TAAG Angola's chief executive Peter Hill. PICTURE: BILLYPIX.

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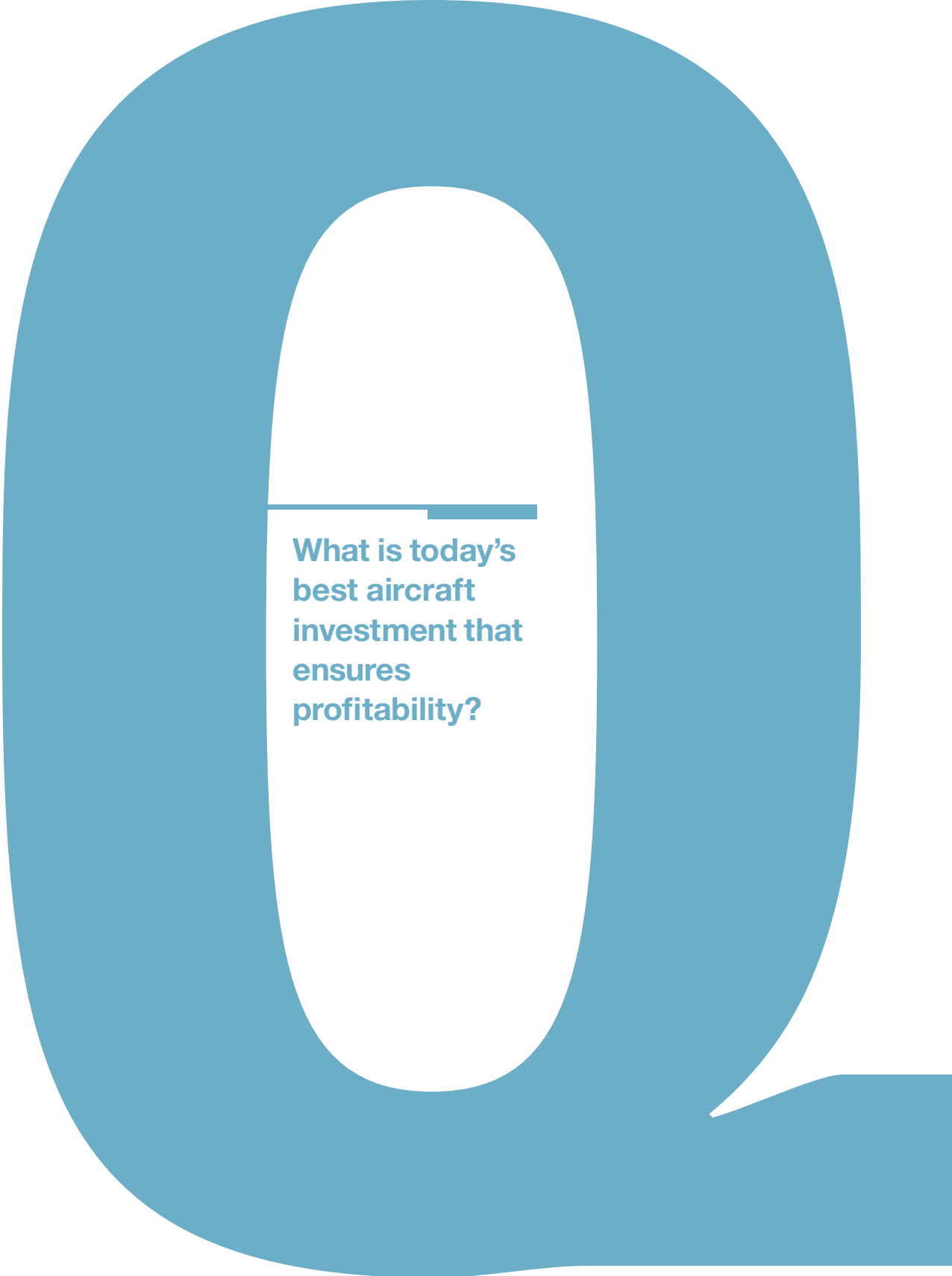
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**What is today's
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investment that
ensures
profitability?**

A low-angle, close-up photograph of the nose and cockpit of a white Airbus widebody aircraft against a clear blue sky. The aircraft's nose is the central focus, with the cockpit windows and the top of the fuselage visible. The Airbus logo and the word 'AIRBUS' are printed on the side of the fuselage. The image is framed by a large, white, trapezoidal shape that tapers towards the top, creating a sense of depth and perspective.

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Aviation Africa 2017 to be held in Kigali is the unmissable summit for all that is aviation.

«Aviation Africa 2017, la conférence incontournable de l'industrie aéronautique, prévue à Kigali.»

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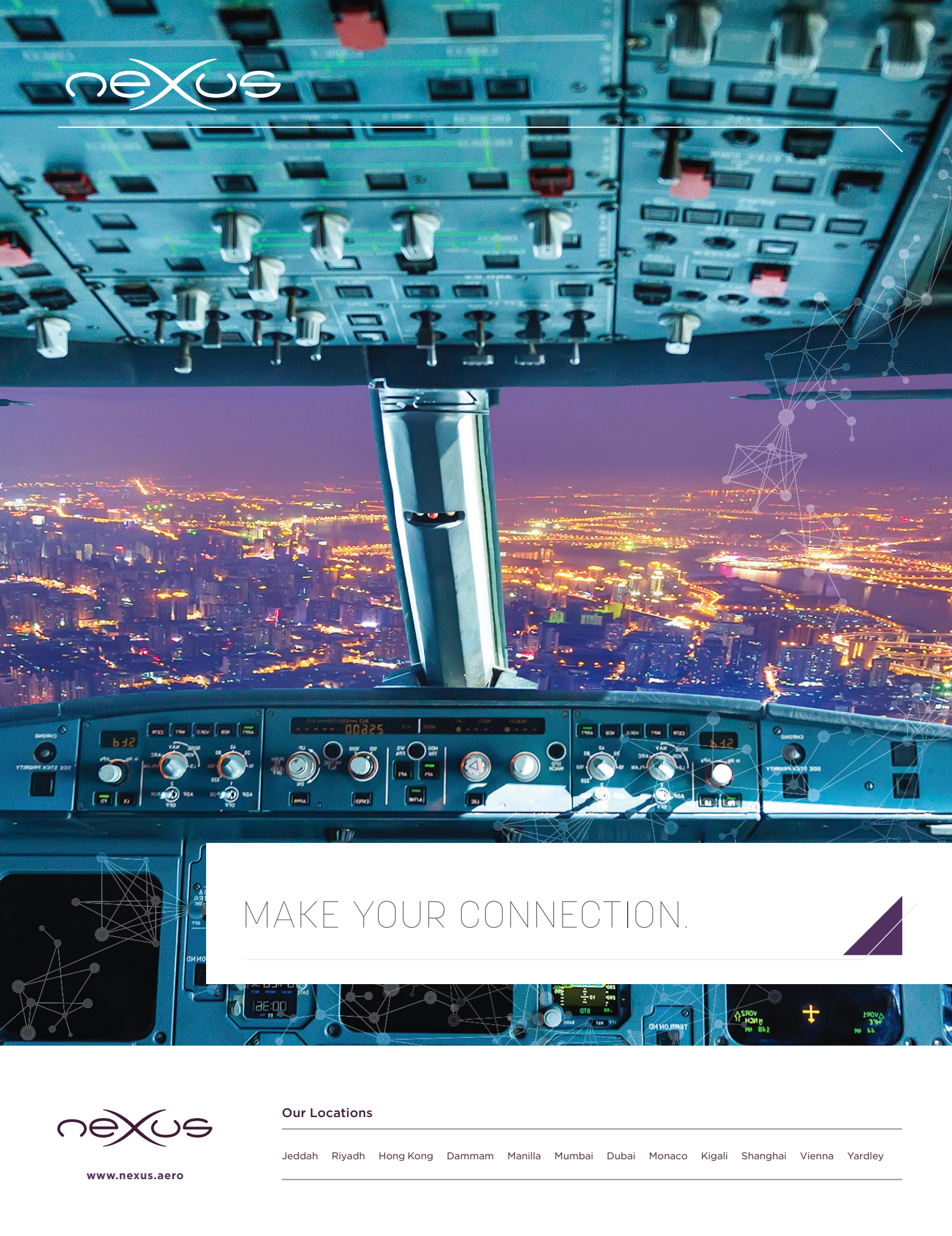
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Debris from MS804. EgyptAir wants options open until the investigation is complete.

EgyptAir waits for MS804 crash inquiry but ready to grow fleet

EgyptAir could order a “considerable” number of narrow-bodies within days, chief executive Safwat Mosallam said at the International Air Transport Association (IATA) AGM last month, standing by its fleet renewal plans despite plummeting demand for tourism in the North African country.

EgyptAir originally planned to order up to 70 aircraft in 2016, but re-assessed its needs following the bombing of Metrojet Flight 9268 in Sinai last October.

Two subsequent incidents – the hijacking of EgyptAir Flight 181 in March and the tragic crash of

EgyptAir Flight 804 in May – heaped further pressure on the flag-carrier.

Mosallam said that despite the challenges, the airline’s 10-year plan to grow from about 70 to 120 aircraft remains on track. “We already took the decision and we will stick with this plan,” he said.

Asked about the investigation into the crash of Flight 804, the chief executive said it would be premature to draw any conclusions at this stage.

He took aim at media reports suggesting that terrorism was the most likely cause.

Within hours of the plane being lost, civil aviation minister, Sherif Fathy, had told a televised news conference that “the possibility... of having a terror attack is higher than the possibility of having a technical failure.” Egyptian authorities quickly accused journalists of taking the remarks out of context.

“He didn’t say that,” Mosallam pointed out, referring to the incident as an “accident” several times. “He said all the options are open – even the terrorist option. He didn’t confirm that it is only one option.”

Tanzania and Kuwait sign BASA

Tanzania and Kuwait have signed a bilateral air services agreement (BASA) in order to boost both countries’ tourism sectors.

Currently, Air Tanzania Company Limited (ATCL) cannot make flights to Kuwait due to lack of aircraft.

The Minister for Transport, Makame Mbarawa, said: “At the moment ATCL has only one aircraft. We have received presentations from three aircraft manufacturers and we will start by buying two new aircraft for the local market before trying to penetrate the regional

market and then the international market. Hopefully, in five years’ time, ATCL will be flying to Kuwait.”

Air Zimbabwe rejects restructure

Air Zimbabwe has rejected two turnaround proposals from NextFlightAir, after

struggling to resume operations with a \$300 million debt.

Tan Ahmed, NextFlightAir’s director of operations, said the first proposal saw the firm assuming the carrier’s Harare International to London Gatwick and Guangzhou routes, covering all expenses and returning money to it each month,

while the second used a more comprehensive restructuring plan for the airline.

In the second proposal, the carrier would have used three 35-seater turboprop aircraft for domestic flights, three 85-seater aircraft for regional operations and two wide-body jets for long-haul flights.

Jambojet looks to extend fleet

Jambojet is looking to extend its fleet ahead of the launch of its international flights.

The carrier is looking to acquire new or second-hand aircraft, with the possibility of using B737-700s to replace its B737-300 fleet.

Jambojet plans to serve Entebbe/Kampala, Mogadishu, Juba, and Dar es Salaam initially, before expanding further into east and central Africa.

The date of launch is currently unknown, as the Kenyan Civil Aviation Authority (KCAA) deferred the carrier’s application for international traffic rights.



Fastjet’s new CEO

Nico Bezuidenhout will step in as CEO of pan-African low-cost carrier (LCC), Fastjet, on August 1 for a three-month period.

The former acting CEO of South African Airways (SAA) joins Fastjet from Mango, the LCC subsidiary of SAA. During his tenure, he grew the airline’s market share to 25% of the South African domestic air travel market and the fleet to 10 Boeing 737-800 aircraft.

Share prices in Fastjet rose by 20% on the news.

Nigeria plans new national carrier

Nigeria plans to establish a new national carrier after the appointment of a transition adviser to help with the process.

The Minister of State for Aviation, Hadi Sirika, said that the Government aims to establish a national carrier that is driven by the private sector, as well as a maintenance, repair and overhaul (MRO) facility.

Sirika said the Government also plans to establish an aviation leasing company in order to solve the issue of access to capital.

“Aviation being international, a lot of transactions are done in foreign currency. Aircraft acquisition, purchasing of spare parts, maintenance and training are all done in foreign currency. Domestic carriers sell their tickets in Naira, but buy their parts in foreign currency. That is why we are working towards making our waiver on spare part importation permanent,” said Sirika.

Kalahari Airways to launch this year

Kalahari Airways will launch in November using two B747-400s leased from Kabo Air. The Botswana carrier's CEO, Denis Coghlan, said that the aircraft would both be managed by Jumbo Jet Leasing on behalf of Kabo Air. The carrier will initially launch routes to Cape Town, Gaborone and London Gatwick.

“We are reaching out to the established tour operators in the UK, Ireland and Scandinavia with highly attractive rates in return for block-booked seats. Initial reaction to our ‘two centre destination’ offer has been very favourable. A limited number of seats remain due to the very high demand,” said Coghlan.



Launch of the second solar plant at Kimberley.

Sunny prospects for Kimberley Airport

Airports Company South Africa has launched its second solar power plant at Kimberley Airport, demonstrating its strive towards sustainability. It is the second regional airport in South Africa to be powered by solar energy.

The solar farm covers 0.7 hectares of land, using an 11kV substation as its main supply.

Construction started last September, and took 24 weeks to complete, costing R13.5 million (\$864,000).

In order to deliver 500KWp of peak production per year to the airport, it uses photovoltaic 1620 PV panels and 18 inverters.

The solar plant forms part of Airports Company South Africa's plan to install solar farms at all six regional airports.



Jeff Motshoba: “By managing the region's upper airspace holistically, we will not only reduce the cost of air travel, but also make it significantly safer.”

Safety proves key as African aviation grows

The World Bank has estimated sub-Saharan Africa's growth at 3.7% for 2015, and 4.4% and 4.8% in 2016 and 2017.

Six African countries have made it on to the bank's list of 13 economies projected to grow the fastest between 2014 and 2017.

“In order to capitalise on our growth potential, we have to ensure that we have integrated transport solutions in place to promote regional, continental and inter-continental trade,” said Jeff Motshoba, executive, air traffic management, at Air Traffic & Navigation Services (ATNS). “By managing the region's upper airspace holistically, we will not only reduce the cost of air travel, but also make it significantly safer.”

He added: “ATNS is playing an important role here, too, with our aviation training academy being one of the continent's leading trainers of air traffic controllers and engineers for the future.”

Med-View plans Ghana scissor hub

Med-View Airline plans to open a regional scissors hub in Accra, taking advantage of Ghana's liberal air traffic policy.

Godfrey Ogbogu, head of flight operations, said: “We operate more than 40 flights per week and have more than 14 approvals to Accra. We are pursuing a rigorous fleet expansion plan that will take us far. By July this year, we will take delivery of another B737-800 that will see us expanding our international operations.”

The carrier plans to operate to Dakar, Monrovia Roberts and Freetown via Accra.

Afriqiyah Airways acquires A320

Afriqiyah Airways has wet-leased an A320-200 from Nouvelair. The aircraft has been in service between the Tunisian cities of Monastir and Sfax, and the Libyan cities of Tripoli Mitiga and Misrata.

Fly Blue Crane signs with Travelport

Fly Blue Crane has signed a contract with Travelport, as well as with its merchandising arm, Travelport Rich Content and Branding.

The agreement allows 68,000 Travelport travel agency customers access to Fly Blue Crane content via Travelport's travel commerce platform.

Yahsat and Tele10 sign MoU

UAE-based satellite operator, Yahsat, has signed a memorandum of understanding (MoU) with regional broadcasting and internet service provider, Tele10 Group, to discuss collaboration on improving internet connectivity in Rwanda, Burundi and the east Democratic Republic of the Congo.

A319 for Nesma

Nesma Airlines is due to acquire its maiden A319-100, adding to the carrier's three A320-200s.



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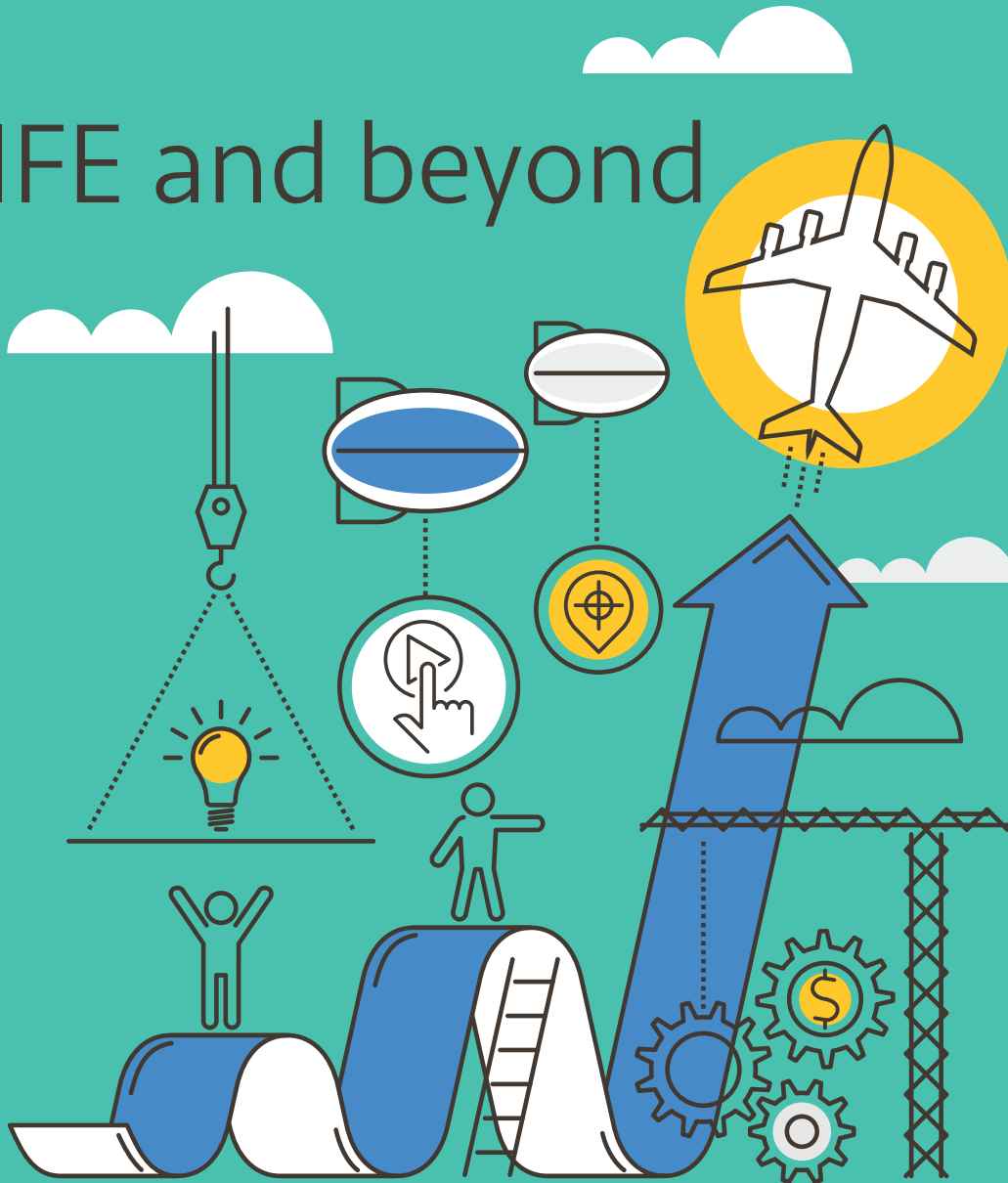
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ACI launches APEX in Security

ACI has launched its first airport excellence (APEX) in security pilot security review at Sir Seewoosagur Ramgoolam International Airport in Mauritius.

The APEX in security programme is a peer review process that identifies areas for improvement and offers advice on how to correct issues.

“APEX in security will make measureable differences in the security operations at airports worldwide, while at the same time bringing together experts in the field to share experiences and learn from each other,” said ACI director general Angela Gittens.

CR Aviation must pay back \$1.7 m

Instituto Nacional de Segurança Social de Moçambique (INSS) is looking to recover MZN84 million meticaís (\$1.7 million) worth of investments in CR Aviation after it was ruled illegal.

INSS planned to acquire a 15% stake in the carrier. However, following an investigation, the Mozambican Ministry of Labour, Employment and Social Security ordered it to cancel the investment, which had violated several legal requirements, including investing in a non-publically listed company.

VIP aircraft seized for second time

The Swazi Government’s VIP MD-87 aircraft was seized for a second time in May by a Canadian court.

The move followed Singaporean businessman, Shanmuga Rethenam, securing a seizure order.

Rethenam is a former business partner of King



Congo Airways adds Bombardier Q400

Bombardier has welcomed Congo Airways to the family of Q400 aircraft customers and operators.

Congo Airways has launched a service on a 76-seat aircraft acquired from a third party.

“In Africa’s hot, topographically diverse landscape, the Q400 aircraft has consistently proven that it has the capabilities needed to operate effectively and efficiently,” said Colin Bole, senior vice president, commercial,

Bombardier Commercial Aircraft. “The Q400 aircraft’s speed allows it to cover large distances with jet-like performance while maintaining the most competitive operating cost per seat.”

Claude Kirongozi, CEO Congo Airways, said: “The technologically advanced Q400 turboprop will help us open routes, increase passenger traffic and contribute to the Democratic Republic of the Congo’s overall economy and development.”

Mswati III, and secured the order from a court in Toronto in order to recover an \$8 million debt.

He has claimed that he sold Mswati the aircraft and paid for modifications and refinancing totalling \$6.5 million.

The aircraft has been seized before, with Mswati paying \$3.5 million for its release.

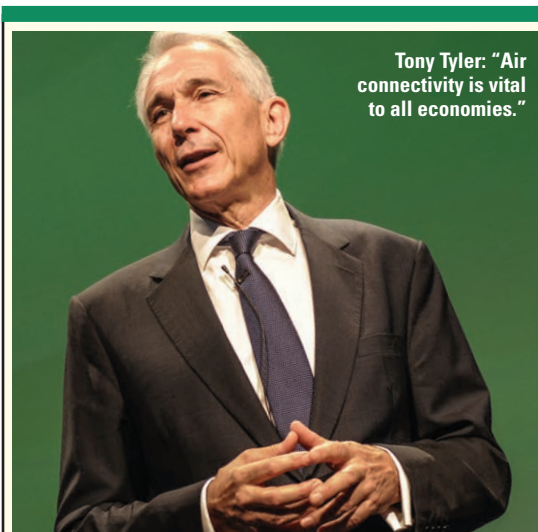
A Swazi court has charged Rethenam with misappropriating funds from a mining business he operated with Mswati.

AAR signs contract with Fastjet

AAR has extended its presence in Africa with a contract to provide power-by-the-hour (PBH) component inventory management and repair services to Fastjet.

The contract covers management of components and repairs of Fastjet’s A319 airframes.

AAR will use its primary parts pool in Brussels and its digital supply chain for parts procurement, and use its predictive-maintenance software to ensure the right parts arrive when needed in order to minimise aircraft-on-ground-time.



Tony Tyler: “Air connectivity is vital to all economies.”

IATA names and shames

The International Air Transport Association (IATA) has called on four African governments to respect international agreements obliging them to ensure airlines are able to repatriate their revenues. The four are Nigeria, Angola, Sudan and Egypt.

“Air connectivity is vital to all economies. The airline industry is a competitive business operating on thin margins. So the efficient repatriation of revenues is critical for airlines to be able to play their role as a catalyst for economic activity. It is not reasonable to expect airlines to invest and operate in nations where they cannot efficiently collect payment for their services,” said IATA director general and CEO, Tony Tyler.

The organisation monitors blocked funds globally – the sum of which exceeds \$5 billion. The top two countries blocking the repatriation of airline funds are Venezuela and Nigeria.

Total airline funds blocked from repatriation in Nigeria are nearing \$600 million. Repatriation issues arose in the second half of 2015, when demand for foreign currency in the country outpaced supply and the country’s banks were not able to service currency repatriations. “It is in everybody’s interest to ensure that airlines are paid on time, at fair exchange rates and in full,” Tyler said.

Ethiopian Airlines opts for Safran

Ethiopian Airlines has chosen Safran’s SFCO service package to help it reduce fuel consumption.

The service will be deployed in 2016 and will cover the Ethiopian flag-carrier’s entire fleet.

“This latest agreement extends the partnership we have developed with Ethiopian Airlines over the last 13 years,” noted François Planaud, head of the services and MRO division at Safran Aircraft Engines. “We are very proud that Ethiopian has chosen this Safran service, which will considerably reduce their annual fuel bill.”

Air Austral receives first 787 Dreamliner

Air Austral took delivery of its first B787 in May.

“The state-of-the-art 787 Dreamliner’s unique capabilities enable us to launch the Dzaoudi to Paris Charles de Gaulle route,” said Marie-Joseph Male, executive chairman and chief executive officer, Air Austral.

“This aircraft is the most advanced in the world, with superior operating economics. It will provide our passengers with an unrivalled on-board experience.”

Air Austral announced an order for two 787-8 Dreamliners in 2015.

P 38: Austral lives the Dream.

Maluti Sky takes off

Maluti Sky has started scheduled passenger operations, running the Maseru-Johannesburg OR Tambo route five times a week.

Sam Matekane, chairman Matekane Group, said the carrier plans to launch routes to Cape Town, Port Elizabeth, and Durban King Shaka later this year.

Kenya Airways to cut 600 jobs

Kenya Airways will cut 600 jobs as part of its 'operation pride' turnaround programme following a KES25.7 billion (\$251 million) loss.

CEO Mbuvi Gunze has said the plan aims to generate savings of \$200 million.

The carrier has begun reducing its fleet from 52 aircraft to 36, and has sold its London Heathrow slots to Oman Air.

It will need between \$500-600 million in recapitalisation to return it to profit, and is currently seeking financial and restructuring help from Afreximbank, McKinsey & Co, and PJT Partners.

Jetex wins licence for FBOs in Morocco

Jetex will launch five new fixed-base operator (FBO) facilities in Casablanca Mohammed V, Marrakech Menara, Rabat-Salé, Agadir-Al Massira and Dakhla airports.

These new Moroccan facilities will be the first FBO operations within the country, ushering in a new era for both business



Bearhawk LSA kit arrives in South Africa

A Bearhawk light-sport aircraft (LSA) kit has been delivered to South Africa. The Bearhawk LSA is a two-place tandem seated aircraft for sport, recreation and utility.

Wayne Giles, who plans to use the aircraft as a demonstrator for additional aircraft sales in the region said: "It

is no doubt going to be another spectacular aeroplane." Giles has a history of building award-winning aircraft and took this year's prestigious "Concours d'Elegance" award at the national Experimental Aircraft Association (EAA) convention for his Patrol.

aviation operators and travellers in the area.

The Moroccan Airports Authority (ONDA) CEO, Zouhair Mohammed El Aoufir, said: "By partnering with Jetex, ONDA marks a new strategic step in the development of business aviation activity across Morocco's airports. Jetex is a global player in the industry and these five new FBO

installations will undeniably bring a significant improvement in hosting and handling passengers across business aviation."

ExecuJet extends line maintenance

ExecuJet is extending its line maintenance capability at Murtala Muhammed International Airport, Lagos.

Working with Maintenance Centre Malta (MCM), ExecuJet can now support different aircraft types like Bombardier, Dassault and Hawker in the region.

"As the approved authorised service centre for Bombardier, Dassault, Hawker and Embraer Phenom products, we are delighted to be able to extend our capabilities and will be one of very few European Aviation Safety Agency (EASA) approved line maintenance service providers in the region," said Ettore Poggi, vice president, ExecuJet Africa.

Safair and LT enter into contract

Safair has contracted Lufthansa Technik to provide total component support (TCS) covering component maintenance, repair, overhaul and access to spares.

The contract went into effect in April, supporting Safair's low-cost carrier, FlySafair's, five Boeing 737 Next Generation aircraft.

The contract gives Lufthansa Technik the opportunity to strengthen its African presence, where as Kenya Airways, RwandAir, South African Airways and SA Express are already utilising its services.

E-passports for East Africa

The East African Community e-passport is due to replace all national passports next year.

State Minister for East African Community Affairs, Shem Bageine, said that during a March summit, South Sudan, Uganda, Kenya, Tanzania, Burundi and Rwanda signed a concession treaty to introduce the e-passports.

"The phasing-out process of national passports begins in January 2017 and is expected to end by December 2018. After that, whoever is travelling to outside east Africa will use that document," said Bageine.



Air Seychelles reports fourth yearly profit

Air Seychelles has reported its fourth consecutive year of profitability, with net profits of \$2.1 million in 2015 on revenues of \$105.4 million.

Audited by KPMG, these financial statements also reflect growth in passenger traffic and strong cargo volumes. A total of 522,873 passengers travelled with the airline in 2015 – 22% up on 2014.

Air Seychelles CEO, Roy Kinnear, said: "The profit we have delivered in 2015 is, above all, a great sign for the future.

"We have the right foundations in place going forward.

"We owe thanks to our two shareholders – the Government of the Republic of Seychelles and Etihad Airways – for their on-going support."

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“By 2020, along with our strategic partner, we plan to make Lomé a hub, not only for air service but also for aircraft maintenance and aviation training.”

HENOK TEFERA

A FOR AMBITION

Five years after launching operations, Asky Airlines made history last year by recording its first profit.

Now the airline is unveiling exciting future plans.

Kaleyesus Bekele met CEO, *Henok Tefera*, to find out more.

Henok Tefera is a man of true ambition. As CEO of what is, arguably, west Africa's most successful start-up airline, he might have been forgiven for wanting to rest on his laurels just a little. Not a bit of it. When I spoke to him at the company's HQ in the Togolese capital of Lomé, I found a man inspired, not only by what had been achieved, but also by the possibilities for the future.

“We have a five-year plan, which takes us up to 2020,” he explained. “Last year we carried about 500,000 passengers, this year we hope to carry 600,000 and, by 2020, we want to double that number.”

“Today we have eight aircraft; by 2020 we plan to operate 12, including long-haul flights to Europe and the Middle East.”

“By 2020, along with our strategic partner, we plan to make Lomé a hub, not only for air service

but also for aircraft maintenance and aviation training.”

It is a big, ambitious plan but if any company can achieve it, it is Asky.

The pan-African airline was established by the west African private sector, in collaboration with its strategic partner, Ethiopian Airlines, in 2008. It launched operation in 2010.

Already it serves 23 destinations in west and central Africa, operating more than 100 flights per week. In Africa many start-up airlines cease operation within a few years but Asky has broken that mould, reaping its first profit in 2015.

“We are essentially a sixth freedom carrier connecting the people of west and central Africa through Lomé, our main hub,” explained Tefera. “Over the course of the last six years we have proven that we are a reliable air service provider for the

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region. There was a need for this after the demise of Air Afrique in 2002. We have managed to fill that air connectivity gap.

“In this region, air connectivity is critical because west and central Africa is highly integrated. You have more trade and more business-to-business relationships; you have more social interaction and, generally, you have more movement in this region than elsewhere in Africa.

“On average, trade within African countries is around 12-15%. Here it is more than 20%. There is free movement of people. Anybody who is a citizen of the region can travel throughout the Economic Community Of West African States (ECOWAS) countries. So there is a high degree of mobility.

“After the demise of Air Afrique, people often had to go to Europe to connect to their African neighbours. In order to fill that gap Asky, with its pan-African vision based on a solid business model and supported by Ethiopian Airlines, was established.

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“Now, after six years of operation, we can say that we have attained all our goals. In 2015 we became profitable for the first time for this region – an airline able to drive a profit margin. We do not know any airline that has managed to become profitable. So it is a big milestone for us, and also for aviation in west and central Africa. It proves that the business model was right and that the strategic partnership established with Ethiopian Airlines was the right one.”

That partnership with Ethiopian has been critical to Asky’s success.

“The airline’s founders were inspired by Ethiopian’s pan-African vision,” said Tefera. “Basically, Ethiopian is an equity stake owner in Asky. We have aircraft maintenance agreements with them as well as our commercial cooperation. We are a small airline and you need

a strong partner, both with financial muscle and technical capability, in an industry that is capital intensive and scale driven.”

Asky currently serves as a feeder for Ethiopian for flights to Sao Pole, Brazil.

“In July, Ethiopian will start operations to New York through Lomé and we will bring the full force of our 25 destinations in the region to connect with them,” said Tefera.

A new state-of-the-art passenger terminal has been built in Lomé. “Our long-haul passengers will benefit from this modern airport terminal. The facilities are there and our network has been synchronized with Ethiopian’s, so that passengers coming from west and central Africa to Lomé will have a minimum one-hour layover before they can connect to the New York flight.

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“It will give Togo a boost because it will have a connection with New York and, by so doing, we will be facilitating trade and tourism investment flows between west Africa and North America. There is huge west and central African community in the New York metropolitan area, so it will also enable a faster, more reliable and affordable access to people’s countries.”

In addition to its Ethiopian links, Asky also has numerous agreements – both internal and codeshare commercial – with many other airlines.

“We are always seeking to expand,” said Tefera. “We have more than a dozen agreements in place.

“We don’t consider other African carriers as competitors because the market in Africa is under-served and, if you look at the long-haul market to and from Africa, it is dominated by non-African carriers. So, we believe in creating synergy and working together, harnessing each other’s strength. That is what we are doing with a number of African carriers.”

Another big boost for the airline was the receipt of the International Air Transport

Association (IATA) operational safety audit (IOSA) last year.

“This is a testimony to the safety and reliability of our operation. It was a big plus factor in terms of passenger and customer confidence – especially institutional customers. It has been a significant boost to our commercial operation,” said the CEO.

Currently Asky operates a fleet of Boeing 737-700 and Bombardier Q400 turboprop aircraft, but it is soon to introduce a new B737-800.

“The B737-800 would be much bigger capacity and would enable us, not only to serve the growing demand in the region, but also to tap into the long-haul market, because we have a plan to start services out of the region,” said Tefera.

“The African market in general may be thin and fragmented but we have the strongest markets in this region. Remember that you have Nigeria, which is the biggest market of all, and you have big economies such as Ghana, Côte d’Ivoire, Senegal and the Democratic Republic of Congo. So this is the region where west and central Africa is a big chunk of the African market.

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“There will be traffic and growth because these countries are growing. There is a direct relation between gross domestic product (GDP) and passenger growth. Air connectivity is essential to fulfil this growing need, both in terms of the people movement and because of increasing tourism trade and investment ties.

“We have now established an extensive regional network with 25 destinations. These are served with a daily flight service. Our plan is to have non-stop daily destinations to all the markets we serve in the region.

“Route deepening is one critical element and, secondly, we want to open routes to destinations we do not serve like Praia on Cape Verde and Mauritania.

“After we cover the west and

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CONTINUED FROM PAGE 20

central region, the next phase would be long-haul flights outside of the region to the main markets, mainly in Europe.

“Paris and London are the big markets. Johannesburg and Beirut are in the second phase. Paris is big for French-speaking countries and London for the English-speakers. So, as we move on, we will go to these markets, because it is important as a carrier with a pan-African vision to provide an affordable and reliable service outside of the region.”

Asky’s success story has not been without blips along the way.

For example, its progress was slowed by the recent Ebola outbreak.

“Ebola is now history,” declared Tefera. “It happened in 2014 and, back then, it affected travel both to the region and within the region, so it had an impact. We bounced back through the

region, as well as issues like high operational costs and punitive taxes.

“The Yamoussoukro Decision is now 30 years old but it has been painfully slow in terms of implementation,” said Tefera. “Through Yamoussoukro, states have committed themselves to enabling all African carriers to enjoy full fifth freedom traffic rights. However, that doesn’t yet happen. There is progress; the situation for us is much better than it used to be, but there is still a long way to go.

“There are situations where African countries give better treatment or better traffic right conditions to non-African carriers, which is unfortunate because it should be the other way round.

“Europe adopted a single market policy in 1992 and, since then, the freedom that was given to European-based carriers to operate freely

“It is the major challenge we face here. It is twice as expensive to operate than in east Africa.

“If you look at fuel cost, although the price has been in decline in the international market, that is not reflected in many of the markets that we serve. Some markets even leave the fuel prices the same as they were a year ago, which we cannot understand.

“Jet fuel is our main cost driver as it accounts for 40% of our total expense. That is a challenge. You also have higher navigation fees, which are much more expensive than in other regions.

“Then there are monopolies in the ground handling and catering services in most of the airports we serve, so we are not able to get competitive prices.

“For reasons that we do not really understand, the industry is heavily taxed. Maybe it’s because it is considered as a luxury but we are trying to change that perception. It is, in fact, a critical industry enabler to economic development and integration and it needs to be viewed as such. But it takes time to change this mind-set and Government policies. Things are improving but not moving fast in that direction.

“We lobby governments directly or with the African Airlines Association (AFRAA) and also the African Civil Aviation Commission (AFCAC).



“We continue lobbying but we also try to have a sensible cost structure for our operation by increasing efficiency and productivity so that we are able to have some flexibility on the ticket prices because, as purely a business-based organisation (Asky is not a subsidised carrier) we have an obligation to cover our cost and drive profit. So the only way we can do that in the high-cost environment is to control our costs, to increase our productivity and to undertake intelligent revenue management so that we can create a profit margin to our shareholders.”

Tefera also pointed out that there are airport infrastructure limitations in the region.

“Governments are trying to improve the airport infrastructure but it is still lacking behind and the challenges remain,” he stressed.

Turning to the future, the CEO revealed an ambitious plan to build a maintenance, repair and overhaul (MRO) centre and an aviation academy in Lomé.

“We are planning to establish an MRO centre, not only for Asky but also for the whole region,” he confirmed.

“There is a tremendous demand for MRO service in west Africa and we are looking at the possibilities of setting up a regional MRO hub with Ethiopian Airlines.

“We also want to establish a pilot and technician training centre, as well as a facility to train commercial staff, cabin crew and finance experts. This type of training for the region is essential for French-speaking countries in particular.”



right strategy, matching capacity and demand. We increased productivity and efficiency and, with the support of our partner, we managed to overcome the difficulty of that period.”

However, despite 2016 looking like another bumper year, there are still a number of problems for Asky to tackle.

“There is an economic slow down, not only in this region but all over Africa in general because of the decline of commodity prices – oil in particular,” said Tefera. “Many countries in the region are reliant on the export of oil for revenue.”

However, he remains bullish. “We still see 4% GDP growth, which is robust when compared to other parts of the world, so we still expect air travel to continue to grow.”

Possibly bigger worries are the problems in obtaining traffic rights to some countries in the

within the European airspace has enabled the emergence of strong carriers such as Ryan Air. It has been beneficial to the European travelling public by creating accessible and affordable air tickets.

“Unless African governments open up their markets and allow African carriers to compete on the same footing as non-African carriers, which are currently dominating the market, the industry in general will have a serious problem.

“It is essential that the Yamoussoukro Decision is fully implemented and that we further create a single African air service market for an African airline industry to be able to compete. That will generate economic activity, increase growth and facilitate travel for the public in the region, so it is win-win situation. But we are not there yet.”

Turning to operation costs, Tefera admitted:

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Four years after retiring, industry veteran Peter Hill is back in the driving seat of another flag-carrier – TAAG Angola – embarking on his biggest challenge to date at a parastatal beset by corruption and economic vulnerability. He talks to Martin Rivers.

Why Hill opted to wrestle with the TAAG challenge

In December 2011, shortly before he stepped down as chief executive of Oman Air, I asked Peter Hill if he was hanging up his coat for the last time in the aviation business.

“I think so,” sighed the industry veteran, who started his career at BOAC before spearheading the Gulf aviation boom as a founding member of Dubai’s Emirates Airline, and latterly steering the flag-carriers of Sri Lanka and Oman. “Fifty years in the business is long enough for anybody.”

But, within six months of retiring, Hill began receiving phone calls about “small projects” here and there and his willingness to take the commissions caught the attention of friend and former colleague Sir Tim Clark, president of Emirates.

“I did what I thought was going to be a six-week spell for Emirates up in Japan. It ended up being eight months,” Hill recalled with a smile.

“I suppose that gave me the feeling that I should be back in this again. I’m missing it too much. So I got two or three other offers. And then Tim said to me, ‘Well, what about TAAG? You know about the project that’s been going on for the last 15 months or so – we’re now ready to do it. Are you interested?’”

At first glance, Emirates’ 10-year management deal with TAAG Angola seems worryingly reminiscent of its ill-fated tie-up with SriLankan Airlines.

Hill led that partnership, parachuting into Colombo in 1999 under a 10-year management contract aimed at reforming the parastatal’s legacy ways. Emirates cemented its relationship by acquiring a 44% stake in SriLankan. Yet, despite orchestrating a successful turnaround, Dubai’s flag-carrier unceremoniously pulled out of the alliance in 2008 following a spectacular fall-out with Sri Lanka’s president.

Hill had refused the premier’s demand to bump 35 passengers off a flight from London, prompting the immediate termination of his work permit and forcing Emirates to conclude that political interference would never be quelled at its equity partner.

Could Emirates’ new partnership with TAAG – historically one of Africa’s most corrupt and inefficient state-owned flag-carriers – be doomed to repeat history?

“It’s very different. There’s absolutely no financial involvement. It’s a straightforward management contract,” Hill said

“The management team are also the board of directors. I am the CEO and the chairman of the company. We have non-executive directors from the Government of Angola, but we have a majority presence on the board, and we have a clear mandate from the government. As long as we adhere to that, then we’re basically given a very free hand to manage the business – which is very unlike Sri Lankan. Very unlike it.”



He admits corruption has been an endemic problem at the flag-carrier. “Investment in the airline hasn’t always been, perhaps, in the best interests of the airline,” he said tactfully, before rattling off a long list of dodgy dealings for IT systems, spare-parts inventories and bogus salaries. “Wrong parts, wrong equipment, wrong decisions. And prices paid, well, there’s no point looking back – it’s all money spent – but whether that was spent in the right areas, one wonders.”

Though candid about the moral decay at the company, Hill is adamant that strong leadership – particularly by a foreign team with no local allegiances – can breathe new life into TAAG.

“You have to have a reference point, don’t you? If the direction from the top isn’t forthcoming, and if there’s no leadership culture that shows people how it can be done profitably, and the right way, and inspires people to do it correctly – if you haven’t got any of that, you can’t expect any of that to happen,” he enthused.

“We’re trying to say to people, ‘The right way is the honest way. The right way is the upfront way. The right way is not hiding anything.’”

Unfortunately for Hill, an even bigger hurdle on the road to profitability is beyond management’s control.

When Emirates and TAAG unveiled their partnership in September 2014, oil prices were still at the heady heights of \$100 per barrel. There was “plenty of money sloshing around” the Government, which generates 70% of its revenue from energy and was “willing to invest heavily in the airline”. By January 2016, however, oil prices had crashed to \$30 per barrel; the Government had run out of foreign currency; business traffic had evaporated; and Emirates’ “grandiose plans” were in tatters.

“We found an airline that was suffering from mounting losses and declining traffic – big time – and a very depressed market getting worse,” Hill said. “That’s really what we’ve been struggling with since we got there.”

Acknowledging that the new strategy marks a “complete U-turn”, he recalled how expansion plans were torn up and the focus immediately shifted to “revenue protection” – a malleable concept encompassing fifth and sixth-freedom traffic growth; improved connecting schedules; reduced frequencies; and an all-out assault on wastefulness.

“What we’ve been able to do in the last eight months is bring in huge cost savings to the business,” he stressed. “Money not spent is



“What we’ve been able to do in the last eight months is bring in huge cost savings to the business. Money not spent is money we don’t have to earn, because it’s damn hard to earn money at the moment.”

PETER HILL

money we don’t have to earn, because it’s damn hard to earn money at the moment.”

Headcount reductions, though politically sensitive, are playing a part. About 10% of the workforce, or 400-500 people, have retired since Hill joined the company. He is hopeful of prodding a similar number to leave by the end of the year, albeit while treading carefully in a country with deeply entrenched socialist attitudes.

“The last thing we want to do is start making huge swingeing reductions in staff. But we can make sure, for example, that people retire when they need to retire,” he said. “And there were quite a few people on the books, by the way, that weren’t coming to work! All that sort of stuff has been cleaned up.”

An early success for Hill’s team was convincing the government to lift visa

restrictions for transit through Luanda. Together with new flight schedules, the approach has opened the door to stronger connecting flows from central Africa to southern Africa, and even across the Atlantic to TAAG’s two Brazilian destinations.

Portuguese flights are another bulwark. Demand remains high for travel between Angola and its former colonial power, resulting in average load factors of 75-80% on the 14 weekly TAAG-operated flights to Lisbon and Porto.

Are the Portuguese routes profitable? “Oh, very much so,” Hill shot back. And Beijing? “Different story,” he shrugged, after a long pause.

TAAG’s Chinese route has symbolic significance to the Angolan Government, which leant heavily on Beijing for reconstruction in the aftermath of its 27-year civil war. With just two weekly frequencies, however, its appeal to

passengers is limited. “If we want to be serious [about China] we’ve got to be there three, four, five times a week,” Hill said.

Elsewhere, the blossoming partnership with Dubai’s flag-carrier has clear potential to grow.

TAAG has already stopped serving Dubai and will place its code on Emirates’ inbound service as soon as the two reservation systems can be synchronised. It will then look for onward codeshares at both ends of the trunk route, including transatlantic services.



On the fleet side, TAAG is poised to receive the last of three Boeing 777-300ERs in June. That will give it a 13-strong fleet, comprising eight wide-bodies (five 777-300ERs and three 777-200ERs) plus five narrow-body 737-700s.

“Would we have taken them [the 777-300ERs] if we had a choice? Probably not,” Hill admitted. “But they were already in production.”

A solution could come from selling the 777-200ERs and replacing them with smaller 787s. “The 777 is a great aeroplane, but you’ve got to fill it,” Hill complained. He put the probability of switching to Dreamliners at about 30%. A preferred option is reconfiguring the 777-200ERs with an updated but simplified two-class layout, in turn boosting their appeal to wet-lease customers who can keep them “gainfully employed”.

Though the headwinds are daunting, Hill is determined to press forward and transform TAAG into a major player in African aviation.

“I’m not downhearted. I’m not depressed at all. I’m very buoyant,” he said with the kind of optimism that might seem rash in a younger, less experienced executive. “We have to do all this with no money. That’s the trick.

“But, you know, we’re quietly confident.”

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Un reportage de Vincent Chappard.

L'AFRIQUE ET L'ASIE AU MENU D'AIR MAURITIUS

«Air Mauritius hungry for a slice of Africa and Asia» – Page 28

Air Mauritius a engagé de nouveaux développements de son réseau au cours du premier semestre 2016 avec notamment l'ouverture de lignes vers Maputo et Dar-es-Salaam. La compagnie a aussi concrétisé son projet d'Air Corridor avec Singapour.

Le continent Africain est un levier de croissance pour la compagnie mauricienne. Selon Megh Pillay, nouveau directeur général de la compagnie depuis mars 2016, les économies africaines font preuve d'une résilience remarquable face à la crise globale. Elles enregistrent toujours un taux de croissance supérieur à la moyenne mondiale. « L'extension de notre réseau sur le continent répond à une demande pour plus de connectivité aérienne. »

Cette extension du réseau vers l'Afrique fait partie des priorités d'Air Mauritius : renforcer le « business » de base de la compagnie et exploiter de nouveaux marchés.

La compagnie a ainsi inauguré deux nouvelles dessertes directes en mai dernier, à savoir Maputo et Dar-es-Salaam. Avec ces nouvelles destinations, elle porte à 26 le nombre de ses vols hebdomadaires vers le continent africain. Elle propose désormais 17 vols sur Johannesburg par semaine, 3 sur Cape Town, 3 sur Durban et 3 sur Nairobi.

Air Mauritius a repris la route de Dar-es-Salaam abandonnée par Air Seychelles. La compagnie seychelloise a en effet mis fin à cette liaison le 12 mars dernier. Selon son CEO, Roy Kinnear,

Continuer à la page 28

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« les deux rotations hebdomadaires n'ont pas attiré le trafic espéré ». Air Seychelles a décidé, après mûre réflexion, « de déployer les ressources utilisées autre part ».

Les nouvelles liaisons contribueront au renforcement du projet d'Air Corridor mis en place par la compagnie mauricienne. Ce projet vise à développer une connectivité aérienne optimale entre l'Afrique et l'Asie, grâce aux hubs de Maurice et de Singapour. Ce trafic aérien permettra également de stimuler le développement du tourisme et des affaires entre ces deux continents.

L'« Air Corridor » Maurice-Singapour repose sur 4 piliers : une desserte directe Maurice-Singapour, une desserte Asie-Maurice et Maurice-Asie, avec des connexions de diverses destinations asiatiques via l'aéroport de Changi de Singapour, une desserte entre les régions Afrique/Sud-Ouest océan Indien et Singapour. Enfin, le projet Air Corridor espère développer les voyages entre l'Afrique et l'Asie à travers des séjours touristiques.

Air Mauritius a conclu des accords commerciaux avec des compagnies aériennes pour offrir, dès le début des opérations du Air Corridor, des connexions avec 18 villes (de 10 pays) depuis le hub de Changi. La compagnie mauricienne a aussi entamé des négociations avec plusieurs autres compagnies pour accéder à un important réseau dans la région d'Asie du Sud-Est. Air Mauritius compte densifier également son réseau vers la Chine. Elle ouvrira à partir du 12 juillet 2016 sa cinquième route sur cette destination avec un vol hebdomadaire vers Guangzhou.



La compagnie souhaite « puiser du trafic aérien là où il se trouve ». De nouveaux partenariats et de dessertes sont à l'étude. Amsterdam pourrait devenir un deuxième hub en Europe en partenariat avec KLM pour développer davantage le réseau et proposer encore plus de destinations.

L'axe Afrique/Asie recèle toutefois des potentiels de développement important. Les compagnies asiatiques sont encore peu présentes sur le continent africain (y compris dans le domaine du fret aérien) alors que celles du Moyen-Orient y ont développé un réseau très intense.

Air Mauritius prend les devants car la concurrence des compagnies asiatiques commence à prendre forme dans l'océan Indien.

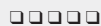
La compagnie Air Asia X a annoncé qu'elle opérera trois vols hebdomadaires entre sa base à Kuala Lumpur et Maurice à partir du 3 octobre 2016. La compagnie malaisienne prévoit une quatrième fréquence hebdomadaire pour juillet 2017. Elle sera donc en concurrence directe sur cette route avec Air Mauritius qui dessert désormais la Malaisie via Singapour en exploitant l'Air Corridor. C'est une première pour Air Asia X qui n'avait pas proposé de

Des profits pour l'exercice financier 2015/2016

Air Mauritius a enregistré des profits nets de 16,5 millions d'euros pour l'exercice financier 2015/2016.

Ce résultat représente une forte amélioration, de plus de 40 millions d'euros par rapport à la précédente année financière qui avait enregistré des pertes de 23,7 millions d'euros.

Plusieurs facteurs expliquent ces résultats positifs notamment un prix de carburant favorable dont les effets bénéfiques ont toutefois été atténués par un mauvais hedging sur une partie des besoins en carburant (impact de 26,6 millions d'euros sur les comptes de la compagnie) et par la dépréciation de l'euro par rapport au dollar US. Selon plusieurs sources, le contrat de hedging devrait prendre fin en octobre 2016.



Air Mauritius attend également avec impatience la livraison de ses nouveaux Airbus A350 prévue en 2017.

La compagnie mauricienne a peu investi dans sa flotte d'avions depuis de nombreuses années. Ses A340 ont en moyenne plus de 20 ans de service.

Le vieillissement et le statu quo de la flotte constituent un réel frein au développement de la compagnie.

Cela a un impact sur les dessertes et les fréquences, les heures de vol, le nombre de sièges offerts et le cargo.

routes en Afrique et dans l'océan Indien (hormis les Maldives) jusqu'à présent.

L'arrivée d'Air Asia X permettra selon le ministre du Tourisme mauricien, Xavier-Luc Duval, d'attirer au moins 50 000 touristes supplémentaires. Cela va permettre aux passagers de prendre des correspondances depuis sa base à Kuala Lumpur.

Même si les compagnies asiatiques ne dépendent pas nécessairement des compagnies africaines pour étendre leurs réseaux sur le continent, elles doivent continuer à avancer leurs pions sur l'échiquier du transport aérien que ce soit pour les routes intra africaines et sur des axes Afrique/Asie qui affichent un potentiel de développement considérable.



A noter que l'aéroport international de Maurice accueille également des vols de Turkish Airlines et de Lufthansa. De nouvelles compagnies s'approprient à desservir l'océan Indien à savoir Edelweiss Air (2 vols par semaine sur Maurice) ou encore la compagnie French Blue (groupe Dubreuil) qui négocie des droits de trafic pour La Réunion et Maurice.

Cette concurrence féroce met la pression sur la compagnie mauricienne. Selon Air Mauritius, « quatre nouvelles compagnies aériennes ont introduit des dessertes sur ses marchés traditionnels, avec pour résultat un impact négatif sur la recette unitaire qui passe de 274,4 euros à 270,1 euros ».

La priorité d'Air Mauritius et de sa nouvelle direction sera d'opérer un virage tant au niveau opérationnel que du développement de son réseau pour rester dans la course.

SUMMARY

AIR MAURITIUS HUNGRY FOR A SLICE OF AFRICA AND ASIA

Air Mauritius is expanding its presence in both Africa and Asia in a positive financial climate, thanks to new routes and its 'air corridor' to Singapore.

The airline has now expanded its services to Maputo and Dar es Salaam, as well as introducing its air corridor project to Singapore.

The main driver for the Mauritian company is the African continent, according to the airline's new CEO, Megh Pillay, who took over his role in March 2016. "The African economies have shown remarkable resilience to the global crisis and they are still delivering a growth rate above the world average.

"The extension of our network on the continent is in response to a demand for more air connectivity," he explained.

In May this year, the airline inaugurated the two new direct services, bringing to 26 the number of weekly flights to African cities, including 17 flights

a week to Johannesburg and Cape Town and three to Durban and Nairobi.

Air Mauritius has taken over flights to Dar es Salaam that were abandoned by Air Seychelles earlier this year after the airline's CEO, Roy Kinnear, said that they had attracted insufficient traffic.

The CEO said the new routes would help to strengthen Air Mauritius' air corridor project, designed to develop connectivity between Africa and Asia through Mauritius and Singapore, while resulting air traffic would also help boost the development of tourism and business between the two continents.

The corridor is built on four major pillars: A direct link between Mauritius and Singapore; a two-way Asia-Mauritius service with connections to various Asian destinations via Changi Airport in Singapore; a service between Africa and the south west Indian Ocean and Singapore; and finally, the development of travel between Africa and Asia through tourism.

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Binter Canarias has bought 12 ATR 72-600s to renew its fleet in the past two years.



Binter breezes in...

A small archipelago off the coast of west Africa is about to become a battlefield as two newcomers try to grab a slice of the local market from the national carrier.
Alan Dron reports.

Cape Verde is gaining a reputation in Europe as a new tourist destination – a warm, year-round cluster of islands some 570km west of Senegal, to which people can escape from the chill of a northerly winter.

The seas around the islands are frequently the birthplace of hurricanes that eventually blast across the Caribbean and the eastern seaboard of the US.

And now, a stiff breeze of competition is about to blow through the archipelago as national carrier Cape Verde Airlines (Transportes Aéreos de Cabo Verde, or TACV) is challenged by two newcomers.

Binter Canarias, from the 'neighbouring' archipelago of the Canary Islands, 1,500km to the northeast, plans to start intra-island operations in Cape Verde. Considerably further to the north, Latvian airline Smart Lynx also has designs on the islands.

TACV currently operates a network of flights between seven islands in the 10-island archipelago. In addition to the international hub on Sal, airports have been built on the inhabited islands and all but those on Brava and Santo Antão enjoy scheduled air services.

TACV also operates to several western European destinations, notably Rotterdam, where there is a sizeable Cape Verdean community. It has a single route to the US, flying to Providence, Rhode Island, one to mainland Africa (Dakar) and four to Brazil, which shares with Cape Verde its use of the Portuguese language.

The airline has a small fleet consisting of one ATR 42 and two ATR 72 turboprops for regional services, plus single examples of the Boeing 737-800 and a 757-200.

It has reportedly been loss-making for several years and has required government bail-outs. In March, TACV CEO, Joao Pereira Silva, was quoted by Reuters as saying that it had to cut costs, notably by making sizeable reductions in its 500-strong workforce if it was to attract new investors. In February, the airline's Boeing 737-800 was temporarily impounded at Amsterdam's Schiphol Airport for alleged non-payment of leasing fees to Ireland-based lessor AerCap.

Binter has operated services between the Canaries and Cape Verde since 2012. However, the Canaries-based airline opened offices in Cape Verde's capital, Praia, on the island of Santiago in June 2015 with the aim of creating a new, locally-based subsidiary.

In recent years, Binter operated a fleet of 15 ATR 72-500 turboprops. Over the past two years it has ordered 12 of the latest ATR 72-600s to replace older models. It is also leasing two Bombardier CRJ900 regional jets from Spanish company, Air Nostrum, to handle longer sectors. It intends, initially, to link the Cape Verdean islands of Santiago, Sal and Boavista, "but the goal in future is to extend connections to the rest of the islands that have airports", a spokesman said.

□□□□□

Initial plans were to station two ATR 72s in Cape Verde, although this number was likely to rise, he added.

It had hoped to start services there by the end of last year. However, speaking in mid-May, the spokesman said that administrative procedures to set up the new operation had taken longer than anticipated. It hoped to begin operations "as soon as possible".

Latvian charter and leasing specialist, Smart Lynx, is also understood to have experienced delays in setting up services in Cape Verde. The Riga-based airline, which flies 12 Airbus A320s, undertakes charter services for the Latvian and Estonian markets.

It has said for some time that it aims to set up a subsidiary in Cape Verde and base two aircraft there to operate to the Baltic nations. However, in April, airline intelligence website CH-Aviation quoted Smart Lynx vice-president, Aleksandrs Gusevs, as saying that obtaining a Cape Verdean air operator's certificate had been delayed until November 2016 to allow it to handle European summer season traffic before basing two A320s in the archipelago.

Repeated attempts by African Aerospace to contact Smart Lynx for more details of its plans were unsuccessful.

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*Cape Verde's unique geography, landscape and demographics should be a blessing for state-owned Transportes Aéreos de Cabo Verde, (TACV). But, as **Martin Rivers** reports, the flag-carrier is struggling to turn potential into profits.*

TROUBLE IN PARADISE

On paper, Cape Verde would seem to be the ideal place to invest in a national carrier.

The volcanic archipelago consists of 10 islands located 570km off the west African coast, making air travel the only viable means of getting from one part of the country to another.

Cape Verde's picturesque beaches also serve as a magnet for foreign tourists – half a million of whom visit the island nation each year, typically taking a short flight from western Europe. Travel and tourism currently accounts for 15% of gross domestic product (GDP) and should grow its share to nearly 19% by 2025, according to the World Travel & Tourism Council.

Throw in the fact that most Cape Verdeans live abroad – guaranteeing a steady flow of 'visiting friends and relatives' (VFR) traffic – and it is hard to imagine TACV, the country's flag-carrier, performing badly.

Yet it consistently does so, racking up liabilities of 10 billion escudos (\$101 million) to date.

For outgoing chairman and chief executive, Joao Pereira da Silva, whose board was dismissed in April following a change of government, unlocking the full potential of TACV has been a thankless – and ultimately fruitless – endeavour.

"We have taken steps [to rehabilitate the airline]. We have been restructuring from 2012 to now," the former economy minister said shortly before his four-year stint came to an end.

Route development dominated the latter stage of the strategy, with six destinations joining the network in 2015. Da Silva ultimately hoped to more than double TACV's five-strong fleet, but his long-term plan failed to address the short-term losses. "Nothing was done with respect to the size of the headcount," he admitted of his time in office. "The cost of human resources is very high at TACV."

Efforts to cut the workforce by a quarter – belatedly announced in the final days of his tenure – were suspended when the Movement for



Joao Pereira da Silva: the writing was on the wall.

Democracy Party (MPD) won this year's election. MPD had been critical of the da Silva board while in opposition and is now conducting an audit of the flag-carrier before committing to a strategy.

Jose Luis Sa Nogueira, the airline's former representative in Brazil, has been named by local media as the new chief executive.

If Nogueira is to succeed where da Silva failed, he will need to tailor his turnaround plan to the airline's idiosyncratic network.

About three-quarters of TACV's seating capacity is deployed on domestic flights between seven island airports. The two primary gateways are located in Sal Island – the country's most popular tourism destination – and Santiago Island, home to capital city Praia.

Internationally, TACV makes use of Cape Verde's mid-Atlantic position to provide unusual connecting flows. Three destinations are served in Brazil to the south-west (Fortaleza, Natal and Recife), and three in western Europe in the

opposite direction (Lisbon, Paris and Amsterdam). The rest of the network comprises Providence in the US state of Rhode Island; Dakar, Senegal and Bissau, Guinea-Bissau in west Africa; and Las Palmas in the Canary Islands.

Madrid and Bergamo (near Milan) also feature in the seasonal winter network.

"TACV benefits from the location of Cape Verde," da Silva explained. "If you look to the Atlantic charts, you see that Cape Verde is in the middle of [flight-paths from] Europe to South America. It's exactly in the middle."

The outgoing chief had hoped to capitalise on this trait by developing a sixth-freedom hub in the island nation. "The projections are for about 20 million passengers [to be] flying over Cape Verde in 2020," he said, estimating that the ratio of international transfer passengers at TACV has increased from 3% in 2014 to somewhere in the double digits today. "I can't give you a precise figure, but it has grown substantially."

Crucially, it was not only the government that da Silva was trying to convince about the merits of sixth-freedom flying.

Cape Verde has been attempting to privatise its flag-carrier for more than a decade, with TAAG Angola, China's Okay Airways and Portugal's EuroAtlantic Airways all reportedly expressing interest at one time or another.

Da Silva said the discussions repeatedly focused on the ability of the island nation to serve as an intercontinental stopover.

"That's the potential [of the business that] we are showing to the investors... but the interest [on their side] is not strong," he admitted.

"Now we are not talking anymore with the Chinese carriers. In the past, the Government of Cape Verde has been in talks with the Angolan Government, but with the new agreement between Emirates and TAAG it will be more difficult," he acknowledged, referring to the 10-year management deal announced by the flag-

The CEO had plans to grow the airline's fleet of ATR 42s.



carriers of Dubai and Angola in 2014. “The decisions [over any investment by TAAG] will be less political and more commercial.”

Hopes of attracting unnamed “Gulf investors” also fizzled out, bringing the divestment strategy to a dead end.

“Privatisation is one of the solutions [to TACV’s troubles], but first we have to restructure the company,” Olavo Correia, the country’s new finance minister, was reported as saying by local media in May. “[We must first create] additional strategic value, and then privatise TACV.”

Correia’s remarks coincided with a series of meetings between TACV employees and Jose Goncalves, the new economy minister, who warned that there would be no “sacred cows” in the next restructuring plan.

For da Silva, the writing was on the wall as soon as MPD won parliamentary elections in March. Having been appointed by the rival African Party for the Independence of Cape Verde (PAICV), he was considered emblematic of the previous administration’s failed attempts to reform the flag-carrier. His final year was also tarnished by a series of apparent cash-flow problems, including TACV’s temporary suspension from the International Air Transport Association (IATA) Clearing House and the attempted seizure of two aircraft over unpaid debts.

Nonetheless, despite widespread support for a

fresh start, it would be unfair to blame da Silva for all of TACV’s woes. Political interference at the parastatal – one of Cape Verde’s main employers – was a constant theme during the 15-year-long administration of former prime minister Jose Maria Neves.

Da Silva also made tangible steps to improve efficiency at the airline, aided by consultant turned chief commercial officer Arik De.

The pair replaced TACV’s under-performing Boston route with Providence, for example, betting on improved economics for the more niche connection. Both cities are hubs for the Cape Verdean diaspora in the US East Coast.



They also restructured the domestic network to enhance connecting options, while strengthening the sixth-freedom proposition with Recife, Natal and Rotterdam (although the latter route appears to have been quietly suspended this year).

Had he been given the chance, da Silva planned to launch additional routes to Frankfurt, Joao Pessoa in Brazil, and potentially Conakry in Guinea and Freetown in Sierra Leone. He also wanted to grow the existing fleet of five aircraft – one 757, one 737-800, two ATR 72s and one ATR 42 – to 11 units by the end of the decade.

Though the outgoing chief could have tackled labour issues more forcefully, he found himself up against severe political hurdles and unique demographic challenges.

“You have the opinion of the experts based on their benchmarking, but for small carriers in an island nation it is difficult to make comparisons,” he said, when asked what sort of retrenchment the company ultimately needs to attain profitability.

The Government’s unwillingness to directly recompense TACV for loss-making inter-island routes also affected its financial results. “We are doing those [public service obligation] flights but the Government is not paying,” da Silva complained, drawing a contrast with other countries that negotiate subsidies for commercially unviable strategic routes. He said a change in the law is pending to rectify the situation.

Before its electoral defeat, PAICV authorised a string of loans for TACV from banks in Angola and Cape Verde – demonstrating the party’s long-term commitment to the flag-carrier.

Da Silva sees no reason why the new MPD government will be any less supportive.

“Cape Verde is an isolated archipelago 500km from Dakar, 3,000km from Europe, 3,000km from Brazil, and maybe 5,000km from North America,” he concluded. “The country needs to have air links. We just can’t afford to be without them.”

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Almost a year on from revealing the worst loss in Kenyan corporate history, the national carrier is deep into a major turnaround programme, as Alan Dron found out when he spoke to CEO Mbuvi Ngunze.

A slimmed-down fleet, higher utilisation of assets, leveraging codeshare agreements, stepping up domestic connectivity – Kenya Airways is covering all the bases as it tries to pull itself out of a nosedive that saw it rack up a net loss of KSh25.74 billion (\$274 million) for its 2014-15 financial year.

The company aims to close the profitability gap by \$200 million through a combination of raising revenues and cutting costs.

One of the most obvious measures in the second category is the disposal of seven long-haul aircraft: two Boeing 777-200ERs have been sold to US charter operator Omni Air International and two more are available for sale. Additionally, three 777-300s have been sub-leased to fast-expanding Turkish Airlines and two 787-8s have been disposed of on the same basis to another rapidly-growing carrier, Oman Air.



The Oman Air deal also included a complex slot trade arrangement at London Heathrow Airport between Kenya Airways, its codeshare partner Air France, and Oman Air that gave the Arabian carrier the ability to launch a long-awaited second daily rotation to the UK capital from its Muscat hub. Kenya Airways has, meanwhile, rented a slot at Heathrow.

“What we’re doing is monetising an asset while still being able to operate,” explained Ngunze.

As an additional benefit, the switching of slots meant that, whereas previously a Kenya Airways flight arrived in London in the morning, then sat on the ground for 13 hours before departing again for Nairobi in the evening, it now leaves on the inbound leg after a turnaround of just over two hours, considerably enhancing the aircraft’s productivity.

Improving productivity is a major plank in the turnaround programme.

The scale of the more intensive use of the fleet can be gauged by the fact that, despite losing seven aircraft from the previously 17-strong long-haul fleet, the summer 2016 schedule’s capacity, as measured in available seat kilometres (ASKs), declined by just 2%.

However, the reduction of the long-haul



Ngunze’s slim-line tonic for Kenya

component did not mean a concentration on short-haul services, said Ngunze. “We’re balancing both long-haul and short-haul,” is how he described it. “When we look at regional and near-regional [services] we continue to add frequency. They key is that we fly more narrow-bodies, more frequently, to give our guests more choice.”

Part of that increased choice will be greater use of existing codeshare and other partnership arrangements between Kenya Airways and other carriers.

“We have more than 20 codeshares,” said Ngunze. “How can we make those work harder for us?”

For example, Kenya Airways has a partnership into Europe with Air France/KLM. This gives four flights daily through which passengers from Nairobi can connect on to destinations throughout Europe. Similarly, the four daily flights from Europe into the Kenyan capital allow connections on to a swathe of African destinations via Kenya Airways.

“We need to replicate what we’ve done in Europe in other areas, such as India or China”

One such route may be via the Kenyan carrier’s link with China Southern. The Guangzhou-based airline last year carried roughly 112 million passengers, of whom just 6 million were



Lay-offs still on the cards

One major outstanding issue for the restructuring is the potential number of redundancies expected.

After talks with the Kenya Airways Pilots Association (KALPA), a proposed strike for June was called off, but Ngunze warned that outstanding issues remain.

“There are still some negotiations to do – that’s part of the consultation process,” he said.

The airline had planned to lay off 600 workers as part of the restructuring programme.

He said the carrier is seeking to find “the right balance” between those pilots who can voluntarily “exit” and those who will need to be laid off. The airline boss ruled nothing out in the carrier’s efforts to return to profitability.

“Everything is up for grabs, there are no sacred cows, if we have to close routes, if we have to shave off routes, reduce frequencies or increase frequencies, that’s all being evaluated,” he said.

international. However, it has been working in the past few years to expand its international footprint.

With Africa increasingly on Chinese tourists’ radar, it makes sense for the two carriers to step up their cooperation and use each other’s domestic and regional networks for their mutual advantage. “They have metal into Nairobi now and we will continue to look to enhance our cooperation,” said Ngunze.

Such cooperation is likely to become increasingly essential; major international carriers such as the Arabian Gulf’s ‘big three’ of Emirates, Etihad and Qatar Airways, plus Turkish Airlines, are making increasing inroads into African traffic. Indeed, Turkish has said publicly that its aim is to become the largest carrier on the continent.



“Clearly, the competitive space is getting significantly crowded,” commented Ngunze. “The market is also growing. How do we stimulate the [traffic] flows that allow us to remain relevant?”

One potential way of doing so is to liberalise the region’s airspace.

Kenya, South Sudan, Rwanda and Uganda have been in talks for some months over creating a single airspace area whose only two international carriers, Kenya Airways and RwandAir, would be able to assume national carrier status in the four nations, giving them access to larger markets.

There is no question that such an airspace arrangement, subject to certain safeguards, would be attractive if it delivered simplified regulations and taxes and would certainly stimulate more traffic, said Ngunze. However, it remained a work in progress, with no timescale for a decision to be arrived at.

Closer to home, Kenya Airways is working to expand services operated by its low-cost carrier subsidiary, Jambojet. Since it was launched with a single Boeing 737-300 two years ago, its fleet has grown slowly to a pair of 737s plus two Bombardier Q400s.

The 737s are used for higher density routes such as Nairobi-Mombasa, while the smaller Q400s are used on thinner routes.

An evaluation of acquiring further Q400s has been under way for some time, together with the rival ATR turboprop, and the Canadian contender looks likely to be the winner, said the CEO.

Meanwhile, work continues to finalise a separate air operator’s certificate (AOC) for Jambojet, which, at present, operates under its parent company’s certification.



The coming few months will provide several pointers as to whether Kenya Airways is in recovery mode. Its fuel-hedging arrangements, which saw it paying substantially more for its Jet A-1 as the worldwide price of oil plummeted, will unwind by the autumn, hopefully allowing the airline to enjoy the benefit of low fuel prices that have contributed significantly to other airlines’ profit figures over the past couple of years.

And the modification or lifting of ‘travel advisories’, imposed by several nations in the wake of terrorist attacks on Kenya and which resulted in significant reductions in the nation’s important tourist trade, should see increasing numbers of foreign passengers again heading for the east African nation.

For the sake of its balance sheet, Kenya Airways certainly hopes so.

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Battle hots up in east Africa's thriving LCC market

Githae Mwaniki
spotlights the rise and rise of the east African low-cost carriers.

East Africa's airline industry is on an upward trajectory with more people being able to afford to fly across the region – thanks in large part to the emergence of budget carriers.

These low-cost carriers (LCCs) have increased the level of connectivity between key cities like Nairobi, Entebbe, Dar es Salaam, Bujumbura and Kigali, improving domestic services in Kenya and Tanzania.

Currently the emerging carriers include Fly540, Jambojet and Skyward Express in Kenya and Fastjet in Tanzania.

Fly540 and its sister airline, East African Safari Air Express (also known as SAX), have stabilised a diverse route network across the region, serving both business and tourists at budget rates.

Jambojet, a subsidiary of Kenya Airways, has, over the past year, grown to serve key destinations within Kenya and recently expanded its fleet to include leased Dash 8 Q-400 turboprops to serve coastal destinations of Ukunda and Malindi.



The airline recently passed the one million-passenger mark, when it transported more than 10,000 passengers in a month to Ukunda – a feat that other airlines operating to the destination have not achieved. Fastjet has completely revamped airline operations in Tanzania. It re-established Dar es Salaam's airport status by providing connections to key destinations in Tanzania and other southern Africa destinations including Harare, Lusaka and Johannesburg.

Now a new entrant – Skyward Express Airlines – has expanded its cargo operations from the former Skyward International Aviation to include passenger services to

Skyward Express has expanded services from a cargo carrier to a passenger airline.



Eldoret, Lodwar, Wajir and Mandera, out of its base in Wilson Airport, Nairobi.

Its impact on the Kenyan domestic market even led to the Kenyan Civil Aviation Authority commending it for providing an efficient air service.

The airline was started by pilots Mohamed Abdi and Issack Somow, who serve as chairman and managing director respectively. It has been operating since 2013 and has been gaining market share.

The airline was initially focused on offering passenger charters and cargo flights and ferrying khat from Nairobi to Somalia, using a fleet of Fokker 50s.

A Fokker 100 jet was also used on the Nairobi-Mogadishu route with the former Skyward International operation. However, after the corporate reorganisation that led to Skyward Express being created, the company acquired a set of Bombardier Dash 8 Q-300s. The 50-seaters are now the primary aircraft serving the Wilson-Eldoret-Lodwar route.

The airline's performance has had a major impact. The ticket price is significantly lower at \$90 and \$170 for a return ticket to Eldoret and Lodwar respectively. Previously, the Lodwar route had been underserved, with only Safarilink offering daily flights at a cost of \$320 for a return flight.

The Skyward Express service has now inspired other airlines, with Fly540 adding the route to its destination network.



Skyward Express has been serving a wide range of clientele, including investors to the oil-rich Lodwar region, business executives, relief personnel and regular travellers visiting friends and relatives.

The airline plans to start serving the coastal destination of Mombasa from Wilson Airport before the end of the year, putting it in direct competition with Kenya Airways, which serves Mombasa from Jomo Kenyatta International Airport.

The Skyward Express fleet now features eight aircraft, including Bombardier Dash 8-Q300s, Fokker 50s and the Fokker 100. The planned operation to Mombasa will mean it is competing directly not only with Kenya Airways, but also with Jambojet and Fly540/East African Safari Air Express (SAX) for a share of the most popular domestic pairing in Kenya.

The airline is implementing an expansion plan to include other domestic destinations including Lamu, Kitale, Ukunda and Kisumu, with other regional destinations like Zanzibar, Bujumbura, Addis Ababa, Comoros and Entebbe to be included to form a regional network.

It recently invested \$24 million, sourced from a consortium of Kenyan lenders, to add an additional three aircraft to its fleet. The set of Dash 8 Q-300s were sourced from operators in the US and Europe.

The airline also plans to acquire an additional Bombardier Dash 8-Q300 with options for a Dash 8-Q400.

Austral lives the Dream

Reunion Island carrier, Air Austral, has taken its first Boeing 787, joining the 21 African 787s already in service with Ethiopian Airlines, Kenya Airways and Royal Air Maroc.

Victoria Moores reports.

Air Austral ordered two 787s in February 2015 and the first of these, configured with 18 business and 244 economy seats, was handed over at Boeing's Everett delivery centre on May 20.

The new twinjet arrived in Paris on May 24 and performed its first flight to Reunion on May 25. Its sister aircraft will follow in October/November.

"We will have to do a lot of things completely differently," Air Austral chairman and CEO Marie-Joseph Male said. "We are the first French airline to operate the 787 – we have absolutely no reference point."

Air Austral started life in 1975 as an inter-island carrier and expanded into 777 long-haul services 13 years ago. Since then, there has been little fleet variation, so the 787 marks a huge shift into the unknown.

Minor challenges for a larger airline have been a steep learning curve for Air Austral. Its scheduling and planning department had no experience of aircraft selections, it struggled to find office space to house Rolls-Royce's on-site representatives, local electricity supplies had to be boosted for the power-hungry 787 and Air Austral's French-speaking maintenance staff had to travel to London Gatwick to learn – in English – how to look after the twinjet. "It seems fairly minor, sending 30-40% of our mechanics off for long training, but substituting them was quite difficult," Male said.

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Air Austral operates two ATR 72-500s, a single 737-300QC, two 737-800s and three 777-300ERs. It selected the 787 over the Airbus A350 for fleet commonality, its mid-sized capacity and ability to operate into Mayotte with a full load. "The choice was rather straightforward with what we wanted to do," Male said.

However, the only way Air Austral could get its hands on a 787-8 before 2020-21 was to take early-build aircraft. These fitted Air Austral's needs perfectly. "It was a question of opportunity," said Male. "For longer routes, it could become a real issue, but not with the routes we have."

The first 787 will replace a 737-300QC that was brought in on short-term lease after Air Austral sold its 777-200LR last October. "The 777-200LR was bought by my predecessor to do Mayotte-Paris, but it was too big at 362 seats, twice-weekly. We couldn't fill it and it wasn't profitable."

Overcapacity has been one of Male's key challenges. In April 2016, he finalised the

The 787 marks a huge shift into the unknown for Austral.



SOMMAIRE

AIR AUSTRAL EN MODE DREAMLINER

Le transporteur de l'île de La Réunion a reçu son premier Boeing 787 et rejoint les 21 B787 faisant déjà partie de la flotte d' Ethiopian Airlines, Kenya Airways et Royal Air Maroc en Afrique. Le point avec **Victoria Moores**.

Le nouveau biréacteur a effectué son premier vol Paris- La Réunion le 24 mai dernier. Un deuxième appareil suivra vers octobre / novembre.

« Nous allons devoir faire beaucoup de choses de manière complètement différente », soutient le pdg de la compagnie Marie-Joseph Malé. « Nous sommes la première compagnie aérienne française à opérer un B787. »

Air Austral exploite deux ATR 72-500, un B737-300QC, deux B737-800 et trois B777-300ER. Elle a choisi le 787 par rapport à ses besoins, sa capacité et son agilité à desservir Mayotte avec une charge maximale.

La surcapacité a été l'un des principaux défis de Marie-Joseph Malé. En avril 2016, il a finalisé l'annulation de la commande de deux Airbus A380 de 824 sièges devant être livrés en 2014.

Le B787 dessert l'île Maurice et Madagascar depuis fin mai.

L'avion doit assurer des vols directs entre

Mayotte et Paris-CDG. Air Austral projette d'envoyer un second ATR 72-500 à EWA.

Le B787 desservira également deux vols directs hebdomadaires vers Bangkok, remplaçant ainsi le B737-800 qui volait via Chennai, une destination qui sera maintenue. De nouvelles opportunités s'ouvrent en Chine, en Afrique de l'Est, dans le sous-continent indien et l'Asie du Sud-Est.

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A la fin de l'année, Air Austral remplacera deux de ses trois 777-300ER opérant entre La Réunion et Paris. Elle souhaite dynamiser ses vols dans l'océan Indien et augmenter sa capacité de fret qui représente 10% de ses revenus.

Air Austral finalisera ainsi le renouvellement de sa flotte moyen et long-courrier à horizon 2022-23. Enfin, le potentiel du low-cost et la privatisation de la société sont à l'étude.

cancellation of two 824-seat Airbus A380s, originally ordered in 2009 for delivery in 2014. "When I arrived in 2012, the company was almost bankrupt. Almost right from the beginning, I said this did not correspond to our plans. We were not in a position to fulfil and respect that contract."

The more moderately sized 262-seat 787 flies to Mauritius and Madagascar. After two days' pilot training on the special short-runway and obstacle procedures at Mayotte, Air Austral will then use the 787 on direct services between there and Paris Charles de Gaulle, cutting out the current stop in Reunion.

Air Austral may send Ewa, its Mayotte regional subsidiary, a second ATR 72-500 to support its 787 feed.

The 787 will also be used to serve Bangkok direct twice-weekly, replacing a 737-800 that flew via Chennai. Air Austral will continue to serve Chennai using 737s, without the onward leg.

"We are going to do new things and we are



Marie-Joseph Male: "We are going to do new things and we are going to do things differently."

going to do things differently. That is the whole purpose of changing our fleet composition," Male said, adding that the mid-size jet will open up opportunities in China, east Africa, the Indian subcontinent and south east Asia.

The 787s are not Air Austral's only new arrivals. In November/December 2016, it will replace two of the three 442-seat 777-300ERs that operate between Reunion and Paris. It

may also consider another 737QC to boost its Indian Ocean passenger flights and add cargo capacity, which makes up 10% of its revenues.

This will finalise Air Austral's mid- and long-haul fleet renewal until 2022-23. "We will then think what aircraft we need at that point, whether that is the 787-9 or -10, the 777X or the A350. We have already started and will continue planning in the months to come," said Male.

Low-cost potential under review

Air Austral's shareholders have asked the management to evaluate the potential for low-cost operations.

"We are getting questions from the government to see if a low-cost subsidiary could help create the right structure to support traffic development," Male said. "We are doing some studies – just like everyone else in the region – to see whether this makes sense, but for the time being it is only studies. Everyone has to find the answer as to whether it makes sense or not. This is part of the analysis every airline has to make."

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This is particularly relevant as the Indian Ocean Commission is working to promote travel between the local islands.

Air Austral used to be privately-owned, but it was reacquired by government-owned institutions in 2012.

Male said these shareholders might be willing to privatise the company again. Any decision would most likely favour local investors, who would preserve the airline's direct air links, rather than a large hub-based carrier like Etihad Airways.

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Learning lessons from

Mohammed Yassin, the chief executive of Daallo Airlines, talks to Martin Rivers about the bombing of Flight 159 in Mogadishu.

Somalia's Daallo Airlines is intensifying security checks and tempering expansion plans as it recovers from a high-profile attack by Al Shabaab, the Al Qaeda-linked terror group.

One of the airline's wet-leased Airbus A321s was struck by an on-board explosion 15 minutes into a flight from Mogadishu to Djibouti on February 2, blowing a hole in the fuselage and sending Abdullahi Borleh, the apparent suicide bomber, plummeting to his death. No-one else was killed.

Speaking in March, Mohammed Yassin, the Dubai-based chief executive of Daallo, confirmed that new measures have been introduced to mitigate the risk of further security breaches.

"This has been a wake-up call for us," he said of the bombing, which appears to have involved a device embedded in a laptop. "Everything that we have previously taken for granted – not any more.

"We have to continuously improve the security

situation and be proactive about it. [We have to consider] what could happen, where the threats may come from, how about [bombing attempts using] liquids, how about electronics? There are a lot of things now that everybody should look into."

Although Al Shabaab has claimed responsibility for the attack, Yassin pointed to "ambiguity" about the "interlinking" between the perpetrators and the wider terror organisation.

"Still there are some doubts," he said, when asked if it was possible that Syria-based Daesh – which has established a local affiliate in Somalia and is actively recruiting fighters from Al Shabaab's ranks – may have been involved.

Yassin reiterated his claim that Borleh was most likely trying to target Turkish Airlines, which cancelled its Mogadishu-Djibouti service on the day of the incident – purportedly due to high winds. Daallo stepped in at the last minute to carry the flag-carrier's stranded customers.

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“If this passenger was on Turkish Airlines, he would have done the same [thing],” the airline boss said. “He had a Turkish Airlines boarding pass.”

In the aftermath of the attack, Vlatko Vodopivec, the Serbian captain of the stricken A321, complained to the Associated Press that security at Mogadishu Airport was “zero”.

Yassin rejected those remarks, stressing that “inside involvement” by at least one airport employee had allowed the bomber to bypass otherwise stringent security checks at the Somali gateway. “Somebody who was working at the airport was involved, and that’s what made it possible,” he insisted.

“Mogadishu Airport is a militarised airport, a highly fortified airport, so it’s not easy for somebody from outside to do such an action.”

In spite of their differing viewpoints, Yassin called Vodopivec a “hero” and said that Daallo “will try to keep him with us in the future”.

“That captain and his crew have done a fantastic job; he can be compared to the captain who landed the aircraft on the Hudson River,” Yassin said, referring to Chesley Sullenberger, the US Airways pilot who saved 155 lives by crash-landing an A320 in the New York river in 2009.

Hermes Airlines, the Greek charter carrier that operated the bombed A321, has now suspended



“We have to continuously improve the security situation and be proactive about it.”

MOHAMMED YASSIN

its wet-lease contract with Daallo.

In its place, another Greek wet-lease operator, Olympus Airways, is providing two AerCap-owned A321s – one to Daallo and one to its local equity partner, Jubba Airways.

The fleets of both Somali carriers are currently in flux, with Daallo temporarily wet-leasing an A320 from Aerovista, and Jubba in the process of withdrawing several Boeing 737 Classics.

Once the fleet changes have been finalised, Daallo will deploy one A321 and one BAe 146, while Jubba will deploy one A321, one A320 and one Fokker 50. The latter unit will eventually be replaced by a pair of ATR 72-500s, though Yassin said efforts to acquire the turboprops have taken longer than expected.

New routes to Addis Ababa and Entebbe are also still being pursued, albeit with security concerns slowing down the approval process.



Separately, Daallo and Jubba remain committed to regional consolidation under the umbrella of the Africa Aero Alliance. The holding company, announced last year, is exploring partnership opportunities in Kenya, Rwanda, Uganda and Djibouti.

Before recruiting new members, though, Yassin wants to fully consummate the bipartite merger and “harmonise” the alliance’s strategic vision.

“When you are fighting with someone for so long, your paradigm and mental set-up is that you like [it] that way, you like to fight,” he admitted. “Telling the person that you have to disarm and be friends, that takes time.”

“I think by March next year the two companies will be fully merged and our vision of growing to the continent will start in a more speedy way.”

SOMMAIRE

LES LEÇONS D'UNE ATTAQUE TERRORISTE

Mohammed Yassin, le directeur général de Daallo Airlines basé à Dubaï, évoque l'attentat du vol 159 à Mogadiscio avec Martin Rivers.

La compagnie somalienne intensifie les contrôles de sécurité et revoit son plan d'expansion après l'attaque du groupe terroriste lié Al-Qaïda, Al Shabaab. L'Airbus A321 a été frappé par une explosion 15 minutes après son décollage de Mogadiscio le 2 février dernier. Il n'y a pas eu de victime à l'exception du kamikaze présumé, Abdullahi Borleh.

« Nous devons être proactifs et améliorer nos mesures de sécurité en permanence. [Nous devons considérer] d'où peuvent venir les menaces. »

Il a réitéré le fait que le kamikaze présumé visait probablement Turkish Airlines, qui a annulé son service Mogadiscio-Djibouti le jour de l'incident - prétendument en raison de vents violents. Daallo Airlines est intervenue à la dernière minute pour transporter les clients bloqués.

Après l'attaque, Vlatko Vodopivec, le capitaine serbe de l'A321, a déclaré à l'Associated Press que la sécurité à l'aéroport de Mogadiscio était au niveau « zéro ».

Mohammed Yassin a rejeté ces remarques, en soulignant qu'« un employé de l'aéroport avait permis au terroriste de contourner les contrôles de sécurité qui sont autrement strictes ».

Depuis, Hermes Airlines, le transporteur grec qui exploitait l'A321 a suspendu son contrat avec Daallo. C'est maintenant Olympus Airways qui fournit deux A321 au pays dont un à Daallo et un autre à son partenaire Jubba Airways.

Une fois les modifications de la flotte finalisées, Daallo déploiera un A321 et un BAe 146 tandis que Jubba Airways va opérer un A321, un A320 et un Fokker 50 qui sera éventuellement remplacé par deux d'ATR 72-500.

De nouvelles routes vers Addis-Abeba et Entebbe sont maintenues bien que les problèmes de sécurité ralentissent le processus d'approbation.

Par ailleurs Daallo et Jubba Airways restent favorables à la consolidation régionale sous l'égide de l'Africa Aero Alliance. Des possibilités de partenariat sont en prospection à Djibouti, au Kenya, au Rwanda et en Ouganda.

Avant de recruter, Mohammed Yassin veut se concentrer entièrement sur la fusion des deux entités de même que sur l'« harmonisation » de la vision stratégique de cette alliance.

Une fusion qui interviendra selon lui d'ici mars de l'année prochaine.

EGYPTAIR PLOTS A FRESH FLEET PATH

EgyptAir reached a new stage in its plans for major fleet renewal in March with the announcement that it is selling 18 aircraft to make way for new replacements.

Alan Dron reports.

EgyptAir's initial re-fleeting plans are focused on increasing the number of new Boeing 737-800s, to renew the single-aisle fleet.

Evaluations of new equipment at EgyptAir are under way and, by the time this issue of *African Aerospace* appears, a request for proposals for new wide-bodied equipment should have been issued to manufacturers and operating lessors.

The clear-out of older aircraft covers both narrow-and wide-bodied types.

The first to go, said Ehab Ghazy, vice-president, planning, at EgyptAir Holding Company, would be seven Airbus A320-200s and four Boeing 737-500s. Three Airbus A340-200s and four Boeing 777-200s will follow.

"The A320s were bought in 1991-92, so they are very old," he said. "The 737s were bought around 1991-93."

The wide-bodies are only slightly younger, with the A340-200s having arrived in 1997 and the 777-200s in 1997 and 2001. "Those aircraft have been for sale since the beginning of the [2013] revolution, but we didn't proceed because of the circumstances of the time," explained Ghazy.

"We have [the wide-bodies] on long-term dry lease for periods of between three and five years. Those leases are quite lucrative and we expect to sell them with the leases attached to enhance their price."

The A340s are serving with Egyptian carrier Air Leisure, while two of the 777s are with Biman Bangladesh. The remaining two 777s have been retained by EgyptAir to provide additional capacity during the airline's high season.

"At the end of the leases, we expect they will be parted out," said Ghazy.

Although recent low fuel prices have reduced the costs incurred by older, thirstier types such as the A340, those costs are likely to rise again fairly shortly, he believes, which means that whoever buys them is likely to break them up for spares.

In late spring, EgyptAir's fleet was 81-strong and this is anticipated to rise to 105 over the next five years. As part of the carrier's re-fleeting plans, the first of nine new Boeing

737-800s will arrive in December, with the complete batch due to be in service by the end of 2017.

As the fleet increases, EgyptAir's aim is to enhance Cairo Airport's capacity as a hub. It intends to do this, initially by increasing the frequency of flights on major existing routes, then adding more destinations, particularly long-haul.

The aim is to use the higher frequencies to boost connectivity through Cairo. This will see an increased focus on regional flights from the Middle East, Africa and Europe using the single-aisle fleet, said Ghazy. "Cairo is in the middle of three continents; with narrow-body aircraft, you're able to connect them."



As well as encouraging transit traffic – from west Africa to destinations in the Middle East and Far East, for example – EgyptAir intends to take advantage of the fact that Egypt is itself a major destination, whether for business travellers, tourists, or for the large number of Egyptians who work abroad, particularly elsewhere in the Middle East.

Tourism, a major source of revenue for the country, has been badly hit by the terrorist downing of a Russian Metrojet Airbus A321 in October last year.

"From reports I'm reading, tourists are really coming back into Sharm El Sheikh," said Ghazy. "There were a lot of people who didn't stop coming, but who went to Hurghada rather than Sharm."

Considerable work has been done in conjunction with Russian officials to ensure security at Sharm El Sheikh. Russia banned flights to Egypt after the Metrojet incident, a major blow for Egypt's tourism industry, as the country attracted two million Russians a year before the ban. In February, Egypt's official statistics agency, CAPMAS, said that tourist numbers were down 46% year-on-year.

"My understanding is that all the checks done by the

Russians and other European governments are going very well," said Ghazy. "We expect to see some [announcement] in the summer that will allow Russians to come back."

"We're already seeing some tourists coming back from CIS nations to Sharm El Sheikh." Meanwhile, tourists have continued to use Cairo as a starting point for trips, particularly other Arab nationalities: "They are very resilient, they never stopped coming. They understand the situation," said Ghazy.



“The company is dying. We need immediate solutions.”

JEAN PAUL
NANA SANDJO

Flagging Camair-Co sets its survival standards

*Camair-Co is succumbing to the same financial malaise that grounded predecessor Cameroon Airlines. Chief executive, Jean Paul Nana Sandjo, tells **Martin Rivers** how the flag-carrier is fighting back.*

Camair-Co launched operations in 2011 as a successor to Cameroon Airlines, the central African country’s historic flag-carrier, which was dogged by financial losses and safety shortcomings during its 37-year history.

Following a pattern that has been repeated by governments across the continent, Cameroon liquidated its old flag-carrier in 2008 before starting again with a clean slate and a new brand.

President Paul Biya, who has been in office since 1982, resurrected the parastatal with start-up capital of 100 million CFA francs (\$170,000).

Whereas Air France had helped launch the first flag-carrier, Germany’s Lufthansa stepped in to provide technical and consultancy assistance to Camair-Co.

To date, however, there is little to suggest that the new company is facing any less turbulence than its forbearer.

“The financial situation is not really very good. We have 30 billion CFA (\$52 million) debt and our operations generate a loss of 1.5 billion CFA every month,” said chief executive Jean Paul Nana Sandjo. “The company is, therefore, in a

real difficult situation. We are struggling. We are working very hard to get Camair-Co out of this situation.

“Fortunately, we are a 100% government-owned company, so the government is supporting Camair-Co as much as it can.”

Sandjo, who became the airline’s fourth chief executive in June 2014, will depend on that state support as he promotes a risky turnaround strategy hinged on densifying the fleet and network.

Though the Government is withholding its approval until Boeing completes an independent assessment, the chief executive has no doubts about what he perceives to be the flag-carrier’s Achilles heel.

“The structure of the airline at the beginning was not correct,” he insisted. “You cannot be present in domestic destinations, regional destinations and international destinations with only three aircraft. That is the main problem.”

Sandjo was speaking shortly before Camair-Co inaugurated a pair of Xian MA60 turboprops – a controversial 50-seat type with a patchy safety record that

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lacks certification to fly in the USA, the EU and New Zealand.

Matthijs Boertien, the flag-carrier's former chief executive, and Pierre Tankam, the former director general of Cameroon's Civil Aviation Authority (CAA), both objected to introducing the MA60s, prompting local media to dub them "flying coffins".

With the two Chinese-built aircraft now in service, Camair-Co deploys a five-strong fleet that also includes two Boeing 737-700s, leased from Aviation Capital Group, and one owned 767-300ER.

But the metal is spread thinly across an ambitious route network comprising six domestic and 11 regional destinations, plus one intercontinental route to Paris (served from main hub Douala via a stop in the Cameroonian capital, Yaoundé).

"When an aircraft has even a little problem we have to cancel flights, and the passengers don't

one 737-800, one 767 freighter, one 737 freighter and two Bombardier Dash 8 Q400s – as well as retrofitting the 767 with an improved interior and new on-board technology.

Camair-Co's earlier letter-of-intent (LoI) for two 787 Dreamliners remains on the books, but is not considered a near-term priority.

"The company is dying. We need immediate solutions," the chief executive emphasised. "We want aircraft [that are] available now. Moving into new aircraft [types] will delay the entry to service, because to order a Dreamliner today, the delivery will be by 2020."

Bringing maintenance work in-house is another priority. An updated agreement with Ethiopian Airlines will see knowledge and capabilities transferred to Camair-Co over the next year, Sandjo revealed, explaining:

"Maintenance must be 100% in-house. We need to have these facilities to repair wheels and brakes. We need all these because it's an

most cities possible by codeshare from Paris," he affirmed, singling out Geneva and the UK as target markets for onward connectivity.

Camair-Co's new MA60s have already facilitated domestic expansion to the western city of Bafoussam. Route launches to Bamenda, Bertoua and Koutaba are now being mooted by Transport Minister Edgar Alain Mebe Ngo'o.

Scheduling data from Flightglobal Innovata, meanwhile, shows that the flag-carrier has added three regional points to its network this year: Dakar in Senegal; Pointe-Noire in Congo Brazzaville; and Malabo in Equatorial Guinea. The latter destination is operated with MA60s, while the former two are served with 737s – heaping yet more pressure on the over-stretched Boeing fleet.

Although Sandjo has visions of making Douala the main hub for central Africa, he accepts that neighbouring countries have their own rival plans. "We will see who will succeed," he smiled.

A more urgent priority is levelling the playing field with international competitors.

In the Cameroon-France country pair, for example, Air France supplies nearly twice as many seats as Camair-Co, despite having equal rights under the bilateral agreement. "It is definitely unfair," Sandjo complained. "Camair is not able to even do the full flight [allocation] in a very acceptable condition. As soon as we have our fleet this will change."

Extra narrow-bodies would also allow Cameroon's flag-carrier to defend market share against Turkish Airlines,

Royal Air Maroc, Kenya Airways and RwandAir – all of which fly 737s to the country from their respective hubs.

The Government's commitment to Camair-Co was reaffirmed last summer, when it underwrote a 25 billion CFA (\$43m) loan from a consortium of banks (Ecobank, Commercial Bank of Cameroon, United Bank for Africa and Afriland First Bank). At the time, the financing deal was linked to the purchase of new aircraft for the flag-carrier.

Subsequent media reports cast doubt on the spending plan, however, claiming that President Biya had suspended the loan while state auditors complete an investigation into the airline.

The outlook became hazier still, when several local newspapers wrongly reported that Sandjo was about to be dismissed.

Whatever the future holds for the chief executive and his ambitious growth plan, Camair-Co has, to date, been a disappointing successor to Cameroon Airlines. The hope is that international experts can help the flag-carrier on to a more stable footing – boosting its competitiveness and clocking up a few orders for Boeing in the process.



like that," Sandjo said, acknowledging that a spate of technical issues grounded the 767 multiple times last year.

In one embarrassing incident in September, affected customers stormed Camair-Co's office in Yaoundé to vent their frustration.

The flag-carrier has other handicaps, too. Although its wide-body is configured in a dual-class layout with 30 business seats and 180 economy seats, Sandjo admitted that "the comfort ... is not good because we have no on-flight entertainment system and the seats are old models".

That places it at a competitive disadvantage to Air France, Brussels Airlines and Ethiopian Airlines – all of which offer world-class products on their wide-body services to Douala and Yaoundé.

High maintenance costs are another concern: Camair-Co ferries its aircraft 1,750 nautical miles east to Addis Ababa for line maintenance.

Aware that the Government's patience is wearing thin, Sandjo has developed a bold turnaround strategy to lift the flag-carrier from its financial quagmire. His proposal involves taking delivery of six aircraft this year – one 777,

investment. At the end of the day it saves money, and the operation will be easy and flexible."

Boeing's consultancy division has reviewed the proposals and submitted its own recommendations to the Government – reportedly calling for a high figure of nine new aircraft.

"Our team is already on the ground and we'll do our very best to help make Camair-Co take-off," Michael Bangué-Tandet, regional sales director for the US manufacturer, was quoted as saying by Dow Jones Newswires in December.

As well as aiming to make the airline cash-flow positive by 2019 – the year that its 787s were provisionally scheduled to arrive – Boeing will scrutinise the network strategy laid out by Sandjo.

The chief executive confirmed that he wants to launch flights to Dubai and Brussels this year, followed by long-planned services to Guangzhou, China in 2017.

He also hopes to sign European codeshare agreements, leveraging Camair-Co's International Air Transport Association operational safety audit (IOSA) certification as a selling point. "The goal is to be able to bring passengers from this area [central Africa] to the

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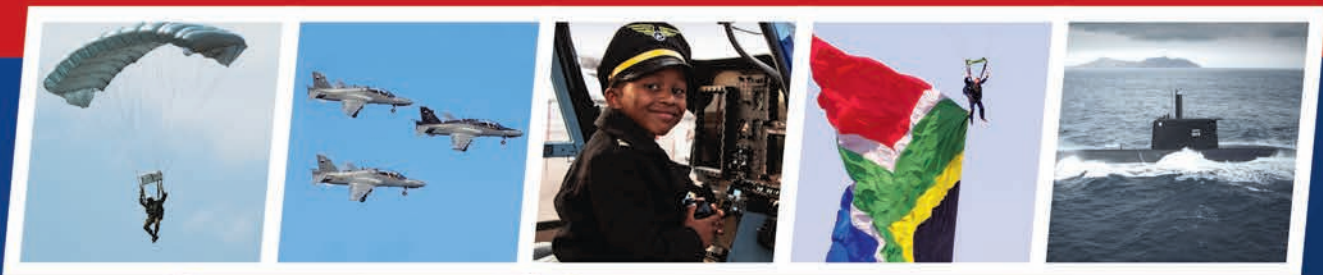
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GET A GRIPEN

Recognising that many African economies are growing and noting that some African air forces need, or may soon need, new fighters, Saab is quietly promoting the Gripen.

Jon Lake reports.

In service in South Africa since 2008, the Saab JAS39 Gripen could be a good 'fit' for a number of African air forces in the future. In May this year, *Botswana's Business Weekly & Review* ran a front cover picture of a Gripen aircraft under the heading "Done deal", reporting that 16 Gripen fighters were to be procured for the Botswana Air Force at a total cost of 16-18 billion Botswana pula (\$1.45-1.63bn), with deliveries within two to three years.

Linda Bengtsson, a spokesman for the Swedish defence procurement agency, Försvarets Materielverk (FMV), which also looks after Swedish defence exports, confirmed that there had been a 'dialogue' about the potential supply of eight Gripen C/D aircraft, though Saab quickly stepped in to clarify that while Botswana was a "good potential customer", any discussions were at "a very early stage", and that it was "very far from a done deal".

But, with its history of stable, representative democracy, and an uninterrupted record of democratic elections since becoming independent within the Commonwealth on September 30 1966, Botswana is exactly the kind of state that Sweden will do business with, and to which it would be willing to supply fighter aircraft and other defence material.

Meanwhile, Botswana has become one of the fastest-growing economies in the world, with the fourth-largest gross national income in Africa, and one of the highest per capita gross domestic products (GDPs) in the continent, as well as being the highest ranked nation in continental sub-Saharan Africa on the Human Development Index.

It is small wonder, then, that when he outlined Gripen's future prospects at last year's Paris Air Salon, Ulf Nilsson, head of Saab's aeronautics division, was quick to list Botswana as a potential customer, alongside two other named African nations.

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Jerker Ahlqvist, Saab's vice president for the aeronautics business area, estimated that Botswana was looking to replace its Canadair CF-5 Freedom Fighters within two to five years, and also identified Namibia and Kenya as potential customers.

Ahlqvist said that Namibia had ambitions, and explained: "They want to get rid of their Chinese aircraft and find something else." He described some degree of uncertainty as to where the Namibians would find the money, while noting recent oil and gas discoveries. He put a five-to-ten year timescale on any Namibian deal.

Nilsson described Kenya as "an accessible market, in terms of global opportunities", while Ahlqvist claimed that "Kenya has a strong interest in Gripen, but there is uncertainty there about when they could find the money for such a programme".

But, despite this uncertainty, Nilsson remains convinced that the Gripen C (and the two-seat Gripen D) represents a very viable proposition for these African nations based on the aircraft's blend of advanced capabilities and low costs.

There have been strong hints that while the JAS39C/D is already significantly cheaper than the company's new JAS39E, there are also second-hand aircraft available, including ex-Swedish Air Force early-model JAS39As and two-seat JAS39Bs that could be refurbished and converted to JAS39C/D standards at even lower cost. These aircraft have very long airframe lives ahead of them.



Though Saab is now developing a new version of the Gripen – the advanced, AESA radar-equipped, longer-range Gripen E – the company is continuing to offer the older Gripen C and Gripen D.

In its latest guise, with upgraded MS20 software, the aircraft will gain new radar, weapon, and combat functionalities. The MS20 upgrade will enable all JAS 39C/D Gripens to use the MBDA Meteor beyond visual-range air-to-air missile. The weapon was tested on the JAS 39C in July 2014 and is now in operational service with Swedish Air Force Gripens, which thereby became the first fighter aircraft to field the weapon.

Saab has claimed that: "The addition of Meteor air-to-air capability makes Gripen the most formidable counter-air platform in service." The MS20 upgrade will also allow the aircraft to carry the small-diameter bomb.

Saab Defense Systems has developed a new Mark 4 version of its PS-05/A radar for the JAS 39C/D, which promises to double air-to-air and air-to-ground detection ranges, while also improving the radar's capabilities against very low radar cross-section targets.

The 17 single-seat JAS 39C and nine dual-seat JAS 39D aircraft operated by the South African Air Force (SAAF) No.2 Squadron (the Flying



South African pilots are reporting the Gripen as "awesome".

Cheetahs) at Makhado Air Force Base (AFB) are to be upgraded to the new standard, following the signing of a SEK 180 million (\$21.6m) steady state support contract with Saab Grintek Defence in December 2013.

This contract saved half of the fleet from being mothballed, keeping all aircraft in a state of operational readiness, and also allowed South Africa to join the incremental spiral development programme.

South Africa originally ordered 28 Gripens (nine two-seaters and 19 single-seaters) in 1998 to meet its advanced light fighter aircraft (ALFA) requirement. The order was revised to nine two-seat and 17 single-seat aircraft in 2005, and the first two-seater rolled-off the Saab assembly line in October 2005, making its maiden flight on November 11. The aircraft made its South African public debut on September 19 2006, just before the 2006 African Aerospace & Defence (AAD) exhibition.

The South African Gripens were customised to meet SAAF requirements, with a locally developed helmet-mounted sight, and a Grintek-developed electronic warfare (EW) system.

The first aircraft was assigned to the SAAF Test Flight Development Centre at Air Force Base Overberg in the Southern Cape, where it

was used for the development and integration of South African avionics, weapons and systems.

The SAAF formally accepted its first Gripen D in April 2008 and two-seat deliveries continued until July 2009. The first two single-seat Gripen Cs were delivered on February 11 2010.

The SAAF Gripens' primary air-to-air weapon was the Diehl BGT Defence IRIS-T short-range air-to-air missile. This was ordered as an interim weapon, pending the availability of the indigenous A-Darter, developed under Project Kamas, originally scheduled to enter service in 2014.

In fact, Denel began production of the A-Darter in late 2015, following successful trials from a SAAF Gripen, including a first launch in February 2015.

The SAAF Gripens flew combat air patrols and surveillance missions during the 2010 football World Cup (Operation Kwele), and border patrols in February 2011 and January 2012 (Operations Corona and Prosper).

In April 2013, under Operation Vimbezela, four Gripens were deployed to Kinshasa in the Democratic Republic of Congo to support South African forces after the African Union decided to reverse a rebel seizure of power in the Central African Republic. This was the first operational combat deployment of the SAAF Gripens.



Gripen pilot Captain Mohau Vundla, speaking at the recent rollout ceremony for the new Gripen E variant, then had just 35 hours on type but was already an enthusiastic advocate for the 'awesome' Gripen, which he described in the most glowing terms.

He had completed initial conversion, and was looking forward to more operationally focused training.

During his training, Vundla flew 180 hours on the Pilatus PC-7 Mk.II with the Central Flying School at AFB Langebaanweg, before moving on to the BAE Systems Hawk with 85 Combat Flying School at AFB Makhado (formerly known as AFB Louis Trichardt).

Vundla flew 360 hours on the Hawk, which he clearly enjoyed. "I loved the handling of the aircraft," he said, "and the course taught me to be a fighter pilot, with lots of air warfare, lots of surface warfare."

He attributed his 'smooth' conversion to the Gripen to his Hawk experience, highlighting the way in which the Hawk's datalink and emulated radar had prepared him for handling the Gripen's systems.

Vundla politely declined to discuss press reports about SAAF aircraft availability and serviceability.

Though the South African Gripens have, at times, suffered from a lack of support funding, Saab sources suggest that these kinds of issue have largely been resolved, not least as a result of the support contract signed in December 2013.

The Sixties swinger that's still fit for purpose

Across the continent, many African air forces retain a legacy of the 1960s and 1970s, when newly independent nations turned to the USSR and the Eastern Bloc for the supply of weaponry. Jon Lake looks at one aircraft type that was Fitter than the rest.

Soviet-supplied aircraft once dominated the fighter arms of African air forces, though in recent years these have largely given way to US, European and Chinese-supplied types.

Probably the most effective of these Soviet-supplied survivors in Africa, however, is the Sukhoi Su-22M4K – the final version of Sukhoi's swing-wing fighter-bomber, which was produced in a bewildering array of sub-variants, using the Su-17, Su-20 and Su-22 designations.

Derived from the fixed swept wing Sukhoi Su-7 'Fitter-A', the Su-17 retained fixed inner wings but added movable outer segments that could be swept to 28°, 45°, or 62°. The new outer wing panels were also fitted with leading-edge slats and trailing-edge flaps. This significantly improved low-speed handling and take-off/landing performance.

In fact, it reduced take-off and landing speeds by 31–37 mph (50–60 km/h), and also cut back on take-off and landing distances.

The swing-wing 'Fitter' was subsequently developed and improved, resulting in a succession of progressively more capable sub-variants.

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Though air superiority fighters like the MiG-21 were once common in African skies, few of the 'Fishbeds' notionally on charge in Angola, Guinea, Mali, Sudan, Uganda or Zambia, are operational or airworthy, and it is only in Egypt, Libya and Mozambique that the type remains in active service.

But, while the MiG-21 did have some rudimentary air-to-ground capabilities, the type was optimised for air-to-air use, and its usefulness to many African operators was limited. The aircraft looked good in Independence Day flypasts, but few African countries needed its air defence capabilities, and many of the MiG-21s delivered quickly fell into disuse.

Though the Su-17/20/22 'Fitter' family was never as widely exported as the MiG-21, the type's air-to-ground capabilities meant that it saw plenty of combat service, and

two of the four African 'Fitter' operators continue to use the type today.

Egypt retired its last Su-17s and Su-20s during the 1980s, while the 15 surviving Yemeni Su-22M3Ks, Su-22M4Ks and two-seat Su-22UM3Ks, were destroyed during the Saudi intervention in Yemen in 2015.

The type appeared to have disappeared in Libya, where two squadrons operated about 50 Su-22Ms, Su-22M3Ks and Su-22UM3Ks during the 1980s and 1990s. The fleet was then retired, before about a dozen of the newer Tumansky/Khatchaturov R-29BS-300-engined Su-22M3K 'Fitter-J' aircraft were refurbished and returned to service about 10 years ago.

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Most of these were then destroyed during coalition air strikes during Operation Odyssey Dawn in 2011. But pro-government forces found a single intact two-seat Su-22UM3K inside a hardened aircraft shelter at Woutia Air Base in western Libya, and restored it to airworthy status for the Free Libyan Air Force, who pressed it into service in operations against Libyan Dawn and other Islamist anti-government groups. The aircraft re-entered service on December 1 2015.

Though primarily intended for conversion, continuation and standardisation training, the Su-22UM3K 'Fitter-G' retains full operational capability, with Doppler radar and a Klen-P laser rangefinder/target designator. This gives the aircraft a precision-guided missile (PGM) capability lacking in the 13 or so MiG-21s that form the backbone of the air force. It is a capability shared only by the two MiG-23BNs that were made airworthy in April and May 2016.

In January 2015, it was reported that Libyan forces were trying to restore a number of older, long-retired, Lyul'ka AL-21F-engined Su-20 (S-32MK) 'Fitter-C' airframes to flying condition, though the status of this programme is uncertain.

Angola received 12 Su-20Ms in 1982-83 but had lost most of these by 1989-90, when 14 Su-22M4K 'Fitter-Ks' and two two-seat Su-22UM3K 'Fitter-Gs' were delivered. Two were shot down by the US Navy on August 19 1981. The survivors were augmented by 10 Su-22M4Ks and two Su-22UM3Ks from Slovakia in 1996.

Four more Su-22M4Ks and two Su-22UM3Ks were received from Belarus in 1999 and four more Su-22M4Ks and one Su-22UM3K were purchased from Slovakia in 2001.

The 'Fitters' historically served with the 26th Fighter Regiment, based at Mocamedes. The survivors were overhauled in Belarus and Russia, and received an avionics upgrade in Poland, and 10 single-seaters and four two-seaters now serve with a fighter-bomber regiment at Base Aérea No5 Benguela 17 de Setembro at Catumbela.

An Angolan Su-22: still 'Fitter' for purpose.



Erwan de Cherisey *takes a close look at the
Cameroonian Air Force's Z9WE attack helicopters.*

CAMEROON'S NIGHT HUNTERS IN THE SPOTLIGHT

«Les hélicoptères d'attaque du Cameroun
sous les projecteurs» – Page 52

In the last three years, the Armée de l'Air du Cameroun's (Cameroonian Air Force: CAF) helicopter fleet has enjoyed a major expansion, increasing from just four aircraft to a current total of 12.

Aside from five Mi-17s, Cameroon has also received four brand new Harbin Z9WE attack helicopters. Nowadays, three of these are operational with the 23ème Escadron (25 Squadron) at Bamenda's Base Aérienne 202 (BA202: Air Force Base 202), in western Cameroon.

While the CAF received its first Sud-Aviation SA318 Alouette II light utility helicopters in the late 1960s, it was only in 1981 that it pressed into service its first attack helicopters, after the first of a total of four SA342L Gazelles arrived from France.

Following the April 6 1984 Republican Guard's attempted overthrow of President Paul Biya, the Gazelle took part in the counter-coup and neutralised several armoured vehicles in Yaoundé.

The Gazelle continued flying in the 1990s, providing air support to Cameroonian troops operating against the Nigerian military in the Bakassi peninsula during the territorial dispute there.

Lack of funding meant that, by the mid-2000s, the aircraft were all withdrawn without a replacement.

By the beginning of the 2010s, the CAF

helicopter fleet was at its lowest point, with just four aircraft – two SA 330s and two Bell 206s – on its strength. However, improving economics and rising concerns over the situation in neighbouring Nigeria and the Central African Republic (CAR) eventually prompted the Cameroonian Government to initiate a military modernisation.

Increasing cooperation with the People's Republic of China (PRC) resulted in the Chinese Export Import Bank (EXIM) extending a loan of over \$340 Million to Yaoundé in 2012. The money was used to purchase a major consignment of military equipment comprising armoured vehicles, patrol ships, anti-aircraft weapons and helicopters. Indeed, the CAF decided to order four Harbin Z9WEs, a dedicated attack version of the Z9 utility aircraft, itself a derivative of the Eurocopter (now Airbus Helicopters) AS365 Dauphin.

Along with the aircraft, a package of weapons comprising HJ-8 wire-guided anti-tank missiles, 57mm rocket launchers and 23mm canon pods was included, as well as a set of spare parts, including a spare Turbomeca Arriel 2C turbine.

Training of the aircrews and support personnel tasked with operating the aircraft took place first in China, during four months at the AVIC factory in Harbin in the first half of 2014. The eight pilots selected for the course all had to have already clocked a minimum of 300 flying hours on helicopters.

The pilots' course comprised several months of



ground lectures and instruction and was followed by 15 hours of flight training before being qualified on the Z9WE. Flight engineers and technicians spent their four months in China on different courses, depending of their specialty (avionics, airframe, etc). Some of them then went to Airbus Helicopters' facilities at Marignane, near Marseille, France, for engine maintenance training, with assistance from the Arriel 2C manufacturer, Turbomeca.

Finally, in November 2014, the four Z9WEs arrived in Douala by ship, where they were disembarked before being assembled at Douala's Air Base 201, with the assistance of Chinese technicians. The helicopters were then extensively test-flown and pilots and technicians continued to train on them until April 2015, when they were relocated to their definitive base, BA202 at Bamenda, in northwest Cameroon, where they were inducted into the newly formed 23ème Escadron.

The Cameroonian Air Force has three Z9WE on strength. The aircraft are armed with HJ-8 anti-tank missiles and feature a day-night, all weather attack capability.

PHOTO: ERWAN DE CHERISEY



On April 23 2015, while on a training flight, Z9WE TJ-XDK crashed, sustaining significant damage. While both crew members were unharmed, the helicopter was too damaged to be locally repaired and had, thus, to be shipped back to China, where it remains to this day.

Each Z9WE can either carry up to eight HJ-8 anti-tank missiles simultaneously, or a pair of 23mm canons or 57mm rocket launchers, or a mix of these.

The HJ-8 target acquisition is achieved thanks to the helicopter's nose-mounted Luoyang Electro-Optics Technology Development Centre (EOTDC) optronics turret, which comprises a TV camera, an infrared camera and a laser rangefinder. The images provided by these sensors are projected on one of the aircraft's two multi-function displays (MFDs).

The Z9WE features a head-up display (HUD),

CAF Z9WE FLEET

CAF SERIAL	C/N	STATUS
TJ-XDJ	Z9-0686	Operational
TJ-XDK	Z9-0704	Crashed 23/04/2015, back to China for repairs
TJ-XDL	Z9-0688	Operational
TJ-XDM	Z9-0701	Operational

which is used for aiming when firing rockets or canons. For self-protection, it has a flare launcher mounted on each side of the fuselage.

The aircraft feature a three-axis autopilot and are instrument flight rules (IFR) rated. It is powered by a pair of Turbomeca Arriel 2C turbines, each delivering a cruise power of 779shp.

Each CAF Z9WE has a Spectrolab Nightsun searchlight mounted on the left-hand side of its nose and Rockwell Collins provides the aircraft's avionics suite.

The helicopters are fitted with a global navigation systems (GNS) navigator. They have an autonomy of 3 hours and 30 minutes, which can be extended by an hour with a ferry fuel tank. The three-axis autopilot and is instrument flight rules (IFR) rated.

On a combat mission, the aircrew comprises two pilots, although the aircraft

has room for several passengers. The standard cruise speed when flying in Cameroon is 120 knots.

Bamenda's BA202 was activated in 2015, when the CAF took over the facilities of the former Bamenda Airport. The base is located at an altitude of 1,236 metres and has a single runway with an approximate extension of 2,500 metres.

BA202 is currently commanded by Colonel Thomas Ngomané, a respected veteran CAF officer with 34 years of service and more than

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SOMMAIRE

Les hélicoptères d'attaque du Cameroun sous les projecteurs

Erwan de Cherisey nous dévoile les hélicoptères d'attaque Z9WE de l'Armée de l'Air camerounaise.

Au cours des trois dernières années, la flotte d'hélicoptères de la force aérienne camerounaise (CAF) est passée de quatre à 12 appareils. Le Cameroun a notamment pris livraison de nouveaux hélicoptères d'attaque Harbin Z9WE. A ce jour, trois d'entre eux sont opérationnels au sein du 23ème Escadron de la Base Aérienne 202 (BA 202) de Bamenda dans la région Nord-Ouest du pays.

Au début des années 2010, la flotte d'hélicoptères de la CAF est mal en point avec seulement quatre appareils en service. En 2012, dans le cadre de la coopération entre le Cameroun et la République Populaire de Chine, cette dernière ouvre à Yaoundé une importante ligne de crédit. Ces nouvelles liquidités permettent au pays d'investir dans du matériel militaire, la CAF passant notamment commande de quatre hélicoptères Z9WE.

Le personnel et les équipages destinés à les opérer sont formés au sein des installations AVIC à Harbin, les huit pilotes sélectionnés ayant tous déjà accumulé au moins 300 heures de vol en service.

Les quatre Z9WE sont livrés à Douala en novembre 2014. Le 23 avril 2015, l'un d'entre eux s'écrase lors d'un vol d'entraînement subissant d'importants dégâts. L'hélicoptère est renvoyé en Chine pour réparations.

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La BA 202 qui abrite les Z9WE est opérationnelle depuis 2013, lorsque que la CAF s'est installée dans les locaux de l'ancien aéroport de Bamenda. Elle est actuellement commandée par le colonel Thomas Ngomané qui, avec 34 ans de service, comptabilise plus de 2000 heures de vol sur hélicoptère. Il est qualifié sur Z9WE et veille à ce que le 23ème Escadron vole tous les jours.

La maintenance des Z9 est assurée par l'Escadron de Maintenance du Groupement des Moyens Techniques (GMT) de la BA 202, qui comprend trois ingénieurs, deux spécialistes de l'avionique, trois techniciens moteurs et un armurier.

Du 28 janvier au 4 février 2016, les trois Z9WE du 23ème Escadron se sont déployés sur la BA 302 de Ngaoundéré pour un exercice de tir réel. D'après les équipages de la CAF, les points forts du Z9WE sont principalement son avionique et optronique de haute technologie, sa capacité de vol tous-temps et son armement.

Les Z9WE de Bamenda sont actuellement les hélicoptères de combat les plus sophistiqués du Cameroun. Ils permettent à la CAF de disposer d'une capacité d'attaque de jour comme de nuit.

Il est probable que lorsque les Z9 seront enfin déployés dans la lutte contre Boko Haram, ces capacités permettront aux forces camerounaises de développer de nouvelles tactiques de combat.

Seen here at Ngaoundéré Air Base 302 during a live firing exercise are three Z9WEs and a pair of Mi-17s. The exercise included a number of night phases during one of which a single HJ-8 missile was fired.

PHOTO: ETIENNE FOUTÉ



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2,000 flying hours garnered on CAF Alouette II, Alouette III, Gazelle, Puma and Z9s, as well as on the Bell 206L-3 and Dauphin of the presidential flight.

He is a dynamic officer, who firmly believes in intensive training as a means to achieving operational proficiency. This is reflected by the fact that the 23ème Escadron's aircraft fly daily. As base commander, he is qualified on the Z9WE, having trained with his pilots in China, and he has logged more than 70 hours on the type.

The 23ème Escadron is commanded by Captain Jean Djotio, a young CAF officer who has already garnered much flying time and is currently the most experienced Z9WE pilot in Cameroon, with more than 180 hours on the aircraft.

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The Z9 squadron is supported by a team of highly motivated engineers and technicians who, until April 2016, were assisted in their duties by a team of AVIC technicians on a one-year technical assistance contract.

Aircraft maintenance is conducted by BA202's Groupement des Moyens Techniques' (GMT: technical capabilities group) Escadron de Maintenance (maintenance squadron), which currently comprises among its personnel three engineers, two avionics specialists, three engine technicians and one armourer. Maintenance is conducted on an hourly and calendar basis, with inspections taking place every 25 flight hours. So far, the most complex servicing process undertaken has been the aircraft's 15 months' inspection.

From January 28 to February 4 2016, the three Z9s of 23ème Escadron deployed to BA302 at Ngaoundere for a live firing exercise alongside a number of 13ème Escadron Mi-17s. The purpose of this training was to confirm the efficiency of the Z9WE weapons suite in a tactical environment. The exercise saw the firing of three HJ-8 missiles, as well as several hundred rounds of 23mm canon.

According to the CAF's crews, the Z9WE's

main strengths are its high-tech avionics and optronics, its all-weather capability and weapons fit.

The Z9s were delivered with Chinese HY07 night vision goggles (NVG) sets, allowing for tactical night flying.

The 23ème Escadron's aircrews have extensively trained with these devices and are, thus, fully proficient in this particularly demanding aspect of flying, turning the squadron into one of the very few flying units in central Africa with the capability to conduct combat operations at night. Indeed, the live firing exercise conducted at Ngaoundere in early 2016, included a number of night flying phases, during which the Z9s were tasked with delivering live ordnance, including an HJ-8 missile, on a variety of targets.

Perhaps the only real critic made against the Z9WE is the fact that it is motorized by the Turbomeca Arriel2C instead of the more powerful 2C2 model.

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While the aircraft are perfectly capable of supporting combat operations against Boko Haram in Cameroon's Far North, they have yet to be deployed operationally. The reason for this is that the Arriel 2C turbines are not yet fitted with sand filters, which are essential for sustained operations due to the overabundance of dust and sand in this particular region. Procurement of this equipment is currently pending.

Bamenda's Z9WEs are currently Cameroon's most sophisticated combat aircraft and provide it with a day/night all-weather attack capability, which, if not unique in the region, remains quite rare.

With 23ème Escadron's aircrews and maintenance personnel steadily developing their skills as their experience on the type builds up, it is very likely that when the Z9s are finally deployed against Boko Haram, their air support capabilities will allow for new operational patterns to be implemented, such as night reconnaissance and identification as well as precision strikes against terrorist positions.

*Mali's Air Force is trying to re-establish itself as a viable air arm and, as **Jon Lake** reports, the recent acquisition of a C295W transport aircraft is the latest piece in the jigsaw.*

Mali cultivates the FARM again

In February 2016, Airbus Defence reported the sale of one C295W transport aircraft to Mali. The aircraft is for use by the Force Aérienne de la République du Mali (FARM) –the Mali Air Force – and became the 23rd nation to order the C295.

The aircraft will be the winglet-equipped C295W variant with increased power (now the standard version of the C295) and will be delivered in transport configuration during the latter part of this year. It offers good hot-and-high performance characteristics, and the type is rapidly establishing itself in the region, with older C295 variants in service in Algeria, Egypt, Ghana, and Equatorial Guinea.

The order represents part of an on-going effort to re-establish the Mali Air Force as a viable air arm, and the country has also placed an order for six Embraer EMB-314 Super Tucano light attack aircraft for use in the advanced training, border surveillance, and internal security roles.

The latter contract, signed at last year's Paris Air Show, includes logistic support and will also provide a much-needed training system for Mali pilots and mechanics.

Currently, the force's flying is

The C295W order represents part of an on-going effort to re-establish the Mali Air Force as a viable air arm.



limited to basic training using about seven Humbert Aviation Tetras-912CS(B) and 912CSLM piston-engined taildraggers, though it may also have recently returned three surviving Mi-24 combat helicopters to service.

Operations against Al Qaeda and other insurgents in the north of Mali have, until now, relied almost entirely on French and other European air forces, operating under a UN mandate. It is intended that the new C295W and EMB-314s will allow Mali to take on a greater share of the burden of supporting its own security forces in the on-going campaign.

Operations by the air force's MiG-21 fighters ceased in 2011, and the six Mi-24 helicopters stopped in about 2013. Two SIAI Marchetti SF-260WL Warriors, a Changhe Z-9 helicopter and a single Basler BT-67 Turbo Dakota, were grounded more recently. These latter aircraft could probably theoretically be returned to service, perhaps while waiting for the newly ordered aircraft to be delivered.

Though other types in the inventory are optimistically described as stored, very few could ever realistically be returned to airworthy status.



Left: Nigerian forces prepare for the attack.

*Nigerian Air Force fast jets destroyed a Boko Haram logistics base at Kangarawa, near the Nigeria-Cameroon border in the northern part of Borno State, on April 11. As **Jon Lake** reports, the operation marked the latest phase of Nigeria's on-going campaign against the insurgents.*

NIGERIA HITS BACK HARD AGAINST INSURGENTS

The Nigerian Air Force deployed additional forces to north-east Nigeria in support of Operation Lafiya Dole - an on-going counter-insurgency operation – late last year.

Air commodore Dele Alonge, said it intended to “crush the fighting will of the Boko Haram terrorist group” and to bring the insurgency in the area to an end.

The operation followed President Muhammadu Buhari's ambitious call to the newly appointed Nigerian military service chiefs to defeat the Boko Haram insurgency within three months.

The new chief of Nigeria's defence staff, General Abayomi Gabriel Olonishakin, was appointed on July 13 last year, along with service chiefs, Lieutenant-

General TY Buratai (Army), Vice Admiral Ibok-Ete Ekwe Ibas (Navy) and Air Marshal Sadique Abubakar (Air Force). Their appointments were confirmed by the Senate on August 4.

While Boko Haram has not yet been defeated, the Nigerian armed forces have enjoyed a series of successes.

On March 29, Nigerian troops attacked a Boko Haram headquarters in Alagarno Forest in Borno state, arresting Khalid Albarnawi, the leader of the Ansaru Islamic Sect, and the second in command to Abubakar Shekau, the leader of Boko Haram.

On April 4, members of the 152 task force battalion,

operating in conjunction with Cameroonian troops from the multinational joint task force, carried out clearance operations of suspected Boko Haram hideouts, killing 15 terrorists and capturing weapons caches.

Then, a week later, on April 10, 155 task force battalion rescued 14 captives and recovered weapons in Nimila village. The following day, 22 Boko Haram insurgents were killed and three commanders were arrested by Nigerian and Cameroonian troops in a joint clearance operation along the Nigeria-Cameroon border.

The Nigerian Air Force struck the Boko Haram logistics base at Kangarawa in Borno state on the same day.

ALGERIA BANKS ON RUSSIAN CRAFT TO EASE PRESSURE

Algeria's substantial order for Russian combat helicopters indicates concern about both terrorists and international rivals, according to specialists on the region.

Alan Dron reports.

Increasing tensions in North Africa have seen Algeria increase an order for Russia's Mil Mi-28NE Night Hunter attack helicopters from eight aircraft to 42.

The Mi-28NE, the export variant of the Mi-28N used by the Russian armed forces, will provide a significant boost to the Algerian Air Force capabilities.

The larger order came almost simultaneously with the latest example of Daesh terrorists attempting to create a caliphate in North Africa. In March, they launched a coordinated attack on army, national guard and police positions in the Tunisian town of Ben Guerdane, near the country's border with Libya. Significantly, it is understood that Algeria came to the assistance of the Tunisian forces, beating back the insurgents in a three-day engagement.



"It's said that Algerian attack helicopters flew in at low level to be used against the insurgents," said Professor George Joffé, of the University of Cambridge in the UK, one of the country's leading authorities on the Middle East. This operation was "part of growing co-operation between Algeria and Tunisia" in the anti-terrorism field.

Algeria currently has a fleet of around 35 earlier-generation Mil Mi-24 Hind attack helicopters, whose cockpit systems were upgraded around a decade ago by South African company Advanced Technologies and Engineering.

Whether the new Mi-28s will replace or supplement their predecessors is unknown.

Delivery dates for Algeria's batch of Mi-28NEs have not been revealed.



Manufacturer Russian Helicopters referred all questions on the Algerian order to the country's arms export agency, Rosoboronexport, which declined to give any details.

Details of customisation of the Mi-28NEs for Algeria are scant, although, according to Russian press reports, they will be modified so they can be flown from both the pilot and the navigator/weapons operator's cockpits.

The Mi-28 is well-suited to patrolling Algeria's vast southern borders against infiltration by Daesh militants. These borders, said Joffé, were "very porous"; although the Algerian armed forces now maintained quite strong control in areas they feared vulnerable to infiltration. Many of Algeria's vital oil and gas facilities are in the remote Saharan regions of southern Algeria.

As well as the Mi-28's chin-mounted 30mm cannon, it can carry laser-guided anti-tank missiles, unguided rocket pods, cannon pods or mine dispensers on its stub wings.

A subsidiary motive for acquiring the Mi-28s, Joffé added, was increasing tension between Algeria and Morocco. The countries have a long-running, smouldering dispute over Western Sahara.

Western Sahara, a former Spanish colony, was annexed by Morocco in 1975 and remains under de facto Moroccan control. However, its indigenous Saharawi people, led by the Polisario Front, declared the area to be the Saharan Arab Democratic Republic in 1976. This is now recognised by many governments and is a full member of the African Union.

The Mi-28s, said Joffé, would be used to deter Morocco from attacking Polisario Front-



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PLUS D'HÉLICOPTÈRES RUSSES POUR L'ALGÉRIE

La grosse commande algérienne d'hélicoptères de combat russes indique clairement les préoccupations du pays concernant le terrorisme et ses rivaux internationaux selon les spécialistes sur la région. Des détails avec Alan Dron.

La commande de l'Algérie est en effet passée de 8 à 42 hélicoptères d'attaque anti blindés Mil Mi-28NE suite à l'accroissement des tensions en Afrique du Nord. Elle vise à augmenter les capacités de la Force aérienne algérienne et intervient presque en même temps que les tentatives de Daesh de créer un califat dans la région. En mars, l'organisation a lancé une attaque coordonnée sur la ville tunisienne de Ben Guerdane, près de la frontière avec la Libye. L'Algérie aurait soutenu les forces tunisiennes pour repousser les insurgés.

« Les hélicoptères d'attaque algériens auraient volé à basse altitude pour contrer les insurgés », explique le professeur George Joffé, spécialiste du Moyen-Orient de l'université de Cambridge. Cette opération « faisait partie d'une coopération croissante entre l'Algérie et la Tunisie dans le domaine de la lutte antiterroriste ».

L'Algérie dispose aujourd'hui d'une flotte d'environ 35 hélicoptères Mil Mi-24 Hind. Aucune date de remplacement de cette flotte par les nouveaux Mi-28 n'a été communiquée pour le moment.

Rosoboronexport, l'agence russe d'exportation d'armement, n'a pas fourni des détails sur ce dossier.

Le Mi-28 est un hélicoptère adapté pour patrouiller sur les vastes frontières méridionales de l'Algérie et aidera à lutter contre l'infiltration des militants Daesh. Ces frontières, selon George Joffé, étaient « très poreuses » même si les forces armées algériennes ont maintenu un contrôle assez fort dans ces zones. Beaucoup d'installations pétrolières et gazières du

pays se situent dans les régions du sud.

Selon George Joffé, la tension croissante entre l'Algérie et le Maroc explique également l'acquisition des Mi-28. Le conflit entre les deux pays au sujet du Sahara occidental, ancienne colonie espagnole annexée par le Maroc en 1975, dure depuis longtemps. Cependant, le peuple autochtone sahraoui, dirigé par le Front Polisario, proclama cette région comme la République démocratique arabe sahraouie en 1976. Celle-ci (un membre à part entière de l'Union africaine) est maintenant reconnue par de nombreux gouvernements.

Les Mi-28 serviraient à dissuader le Maroc d'attaquer les camps de réfugiés près de la ville algérienne de Tindouf située à proximité des frontières entre l'Algérie, le Maroc, la Mauritanie et le Sahara occidental. La tension est récemment montée d'un cran entre le Maroc et le Front Polisario. L'Algérie considéra que c'était de son devoir de protéger les camps près de Tindouf.

Riccardo Fabbiani, analyste pour le groupe Eurasia sur la région, est d'avis que « s'il est vrai que la préoccupation majeure de l'Algérie est de sécuriser sa frontière sud et la zone autour des gisements de pétrole, cela s'apparenterait à une course aux armements » entre ces deux pays.

Des rapports récents indiquaient que les capacités des forces armées du Maroc avaient dépassé celles de l'Algérie. Cette donnée a peut-être impacté sur le dossier des Mi-28. L'Algérie tient à maintenir un équilibre avec les forces de son voisin.

controlled refugee settlements near the Algerian town of Tindouf, which lies close to where the borders of Algeria, Morocco, Mauretania and Western Sahara meet.

Tensions have heightened recently between Morocco and the Polisario, with Morocco having recently expelled a large part of the United Nations monitoring force in the region, explained Joffé. Algeria saw it as its duty to protect the camps near Tindouf.



Another specialist on the region, Riccardo Fabbiani, senior analyst on North Africa for the Eurasia Group political risk consultancy, said that while "in general it's true that Algeria's main security concern is the southern border and the security situation around the oil fields... it sounds like this is part of the arms race between Algeria and Morocco."

Recent reports that Morocco's armed forces had overtaken those of Algeria in capabilities may have had a part in the increased order for the Mi-28s, with Algeria keen to keep a balance of forces with its western neighbour.

The attraction of the Mi-28 to Algeria may have been aided by reports of the helicopter's recent performance against Daesh forces in Syria, where it has fired AT-9 Spiral 2 missiles and other weaponry against ground targets.

Additionally, Russia's defence ministry claimed that the helicopters' jamming equipment had proved effective against a variety of man-portable air defence systems deployed by Daesh, including the Soviet-made Strela-1, Iгла-1 and the Chinese Hong Ying-5.

Lockheed Martin is focusing increased attention on Africa as a market for its C-130J Super Hercules transport aircraft, in the face of stiff competition from the Airbus Defence C295, and the Alenia C-27J Spartan.

Jon Lake reports.

Lockheed's Herculean effort in Africa

The C-130J is an advanced new-build derivative of the original C-130A-H. Its new 4,637shp Rolls Royce AE2100D3 engines and Dowty Propellers' six-blade R391 propellers provide dramatic all-round performance improvements, as well as reduced operating costs.

The C-130J's new engines provide 30% more power than the 4,590shp Allison T56-A-15 or Allison AN501-D22A turboprops used on the C-130 and L-100.

This, in turn, ensures that the Super Hercules is 10% faster than the 'heritage' version, with 40% more range and 35% lower direct operating costs, including 15% lower fuel burn.

The aircraft also incorporates digital avionics, a modern glass cockpit, and an integrated defensive aids suite.

The C-130J carries a flight crew of two with the flight engineer and navigator eliminated.

There are about 120 examples of the older 'legacy C-130' or 'heritage Herk' in service in Algeria, Angola, Botswana, Cameroon, Chad, Egypt, Ethiopia, Gabon, Libya, Morocco, Niger, South Africa, Sudan, Tunisia and Zambia.

But, although the C-130J Super Hercules has accumulated more than 1.2 million flying hours to date, with more than 330 on order or delivered to 16 countries, and though the new type is available in nine variants, including 17 different mission configurations, Tunisia is so far the only African operator.

The Tunisian Air Force received two stretched C-130J-30 versions of the Super Hercules in April 2013 and December 2014, and these are now in service with 21 Squadron, based at Bizerte-Sidi Ahmed Air Base.

Tunisia's new aircraft will perform traditional airlift duties but will also support relief operations around the world, and are equipped for fire-fighting using the modular airborne fire-fighting system (MAFFS).

Egypt has also ordered a pair and will become the 17th international customer for the C-130J.

Lockheed Martin believes the only replacement for the original Hercules is a C-130J, though in Africa slightly smaller but more economical twin-engined transports like the C295 and C-27J are gaining traction, while bigger transport aircraft like the Airbus A400M promise to be able to carry larger loads that the Hercules (whose fuselage cross section was laid down in the 1950s) cannot. This includes larger modern vehicles and helicopters.



Lockheed Martin is also energetically marketing the LM-100J, the civil derivative of the C-130J, which lacks military avionics and communications equipment.

The large fleet of L-100 aircraft (the commercial version of the 'heritage Herk') now in use in Africa, is in urgent need of recapitalisation, and the company expects to see strong civil demand for the LM-100J.

Lockheed launched the LM-100J in February 2014 and has already asked the US Federal Aviation Administration (FAA) to certify it, a process that will take about three years to build the first aircraft, followed by about a year of certification testing.

Orlando Carvalho, Lockheed Martin

Aeronautics executive vice president, said: "We started the FAA certification process at the beginning of this year and we expect it to go through to the end of 2017, at which point we will enter the test period for validation, which will extend through 2018, so we are looking at first deliveries towards the end of that year."

Lockheed built 114 L-100s from 1964 to 1992, and the company expects the market for the new LM-100J to be around 300 aircraft, with a break even at 12-15 aircraft.

Today, about 75 L100s remain in service, 35 of them with military air forces (including in Algeria, Gabon, and the Free Libyan Air Force). Around 36 more are in commercial service, including nine with South Africa's Safair, three with Libyan Arab Air Cargo (previously known as Jamahiriya Air Transport) and two with Uganda Air Cargo. Five more are used by Transafrik, which is headquartered in Fujairah, UAE, but based in Angola, with its L-100s registered in Uganda.

Though a civilian freighter, the L100 has been used to support pro-western forces in the Angolan civil war, and in a number of other conflicts.

Some 30 of the 114 built were written off, 19 of them in Africa, including 12 in Angola. Six of the latter were shot down between 1981 and 1999 during the civil war, when National Union for the Total Independence of Angola (UNITA) rebels were supported by South Africa, the USA, and other western countries.

Today, four L100-30s are operated by Tepper Aviation, based at Bob Sikes Airport in Florida, USA.



Tepper Aviation was founded by Bud Tepper, a pilot who always denied that his Hercules had ever operated in the Congo or Angola, but who was killed in an L100 crash at the UNITA base of Jamba, Angola, carrying a load of arms from the Democratic Republic of the Congo.

Tepper Aviation continues to undertake flights in support of the US military, the UN and other customers.

The LM-100J promises to give civil operators the performance, capabilities, technology, and reliability of the military C-130J Super Hercules, with the same ability to operate from short, unprepared airfields, while being able to quickly load and unload at the height of a truck.



The aircraft is ideally suited for use by oil and gas operators and mining companies, which may need to deliver heavy equipment and plant to semi-prepared airstrips in austere locations. Lockheed Martin has said that it expects to sell about 75 aircraft to mining and energy companies.

The LM-100J can also be used for passenger and cargo transport, the delivery of humanitarian aid, medical evacuation, and VIP transport, as well as for specialised missions including aerial spraying, fire-fighting, and survey missions.

ASL Aviation, the parent company of the largest L-100 operator – South African air services operator Safair – signed the LM-100J's launch order in July 2015, with a letter of intent for 10 aircraft to replace its existing nine L100s.

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L'EFFORT HERCULÉEN DE LOCKHEED EN AFRIQUE

Lockheed Martin considère l'Afrique comme un marché prometteur pour son avion de transport C-130J en particulier face à la forte concurrence du C295 d'Airbus et du C-27J d'Alenia. Un reportage de Jon Lake.

L'avion de transport C-130J, la nouvelle version du C-130A-H, est propulsé par le nouveau moteur AE2100D3 de Rolls Royce qui lui offre 30% de puissance en plus.

Il est par conséquent plus rapide par rapport à ses prédécesseurs et bénéficie d'une réduction de 35% ses coûts d'exploitation directs et de 15% sa consommation de carburant.

120 exemplaires de la famille C-130 sont en service en Algérie, en Afrique du Sud, en Angola, au Botswana, au Cameroun, en Egypte, en Ethiopie, au Gabon, en Libye, au Maroc, au Niger, au Soudan, au Tchad, en Tunisie et en Zambie. Ils ont accumulé plus de 1,2 millions d'heures de vol. 330 avions ont été commandés ou livrés.



La Force aérienne tunisienne a reçu deux C-130J-30 (version allongée) en 2013 et 2014. Ils sont désormais en service sur la base de Bizerte-Sidi Ahmed. L'Egypte a également commandé deux C-130J.

Selon Lockheed Martin, le C-130J pourra remplacer les flottes d'Hercules en Afrique par rapport aux caractéristiques du C295 et du C-27J qui prennent de l'ampleur ou encore de l'A400M.

La société fait un marketing intense de son nouveau LM-100J (dérivé civil du C-130J). Elle a



lancé le LM-100J en février 2014 et a déjà demandé à la FAA de le certifier.

« Nous avons lancé le processus de certification début 2016 et nous comptons le terminer fin 2017. Les essais sont prévus jusqu'en 2018 et les premières livraisons à la fin de cette même année », affirme Orlando Carvalho, vice-président exécutif de Lockheed Martin Aeronautics.

L'avion de transport LM-100J fournira aux opérateurs civils l'équivalent de la performance, des capacités technologiques et de la fiabilité des applications militaires du C-130J.

Cet avion sera utile aux opérateurs pétroliers, gaziers et aux sociétés minières. Il pourra également être utilisé pour le transport des passagers, du fret, d'aides humanitaires, pour l'évacuation médicale ou encore le transport VIP.

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Dr Orekunrin has built a life-saving operation from her base in Lagos.



A passion for saving lives

Dr Ola Orekunrin, a helicopter pilot and founder of Flying Doctors Nigeria, talks to Chukwu Emeke about the problems and solutions for dealing with medical emergencies in such a vast area.

West Africa is huge and handling medical emergencies can be challenging – especially in rural areas where it takes several hours by barely accessible roads to get the ill or injured to the most appropriate hospitals.

It is a problem that Ola Orekunrin, a UK-trained physician, feels passionately about.

After graduating from Hull York Medical School in England, Orekunrin, a member of both the American Academy of Aesthetic Surgeons and the British Medical Association, worked for almost 10 years in the UK National Health Service (NHS) before returning to Nigeria to pursue her dreams.

It was there, five years ago, that she set up Flying Doctors Nigeria (FDN) – a business she describes as “peculiar” but one which has helped her to combine her deep love for medicine and Africa with her passion for flying.

The service specialises in air ambulances, medevac, medico-logistics, remote site medical solutions, medical infrastructural development and medical training services.

“As a physician, I have always cared deeply about healthcare,” said Orekunrin. “One of the most important issues facing people today is the problem of logistics, getting the patient to the right medical facility in good time.”



Her organisation targets clients in high-risk arenas like the construction industry, where a lot of people work at heights with dangerous materials; the oil and gas industry; insurance; banking and manufacturing.

“When most people think of both private aircraft and commercial scheduled aircraft, they think luxury. However, we use these aircraft to move sick patients from areas where they have overwhelmed the level of care available to them, saving hundreds of lives a year,” said Orekunrin.

Many beneficiaries of FDN’s services have been patients transferred within west Africa. Countries like Chad and Mali do not have facilities that are available in Nigeria and so they are moved to that country for treatment.

This kind of service rarely has the end-user paying for it in Africa. Aside from a few instances where an individual

possesses the financial capacity, a company could take life cover for all its employees. Typically this could include personnel that work with machines, bank personnel who sustain injury from robbery, miners in remote areas, and so on.

A percentage of service recipients are people who never imagined they would ever use an aircraft, because of their personal economic status. To their amazement, they see themselves being flown in a private jet to a hospital in the UK, India, South Africa, Saudi Arabia or some African countries, courtesy of their organisation.

Equally, victims of security-related incidents, like bomb disasters, have the government picking up their bills.



FDN, the first air ambulance company in west Africa, maintains a high safety record. Its personnel can provide emergency transfer by road or air to the best source of local help, medical escorts on commercial airline flights, procurement of medical equipment and supplies for remote site support, and first aid training, among other services.

The company can be retained by corporate bodies using specialised plans.

“We partner with several airlines using our landmark product, the ETU, which is a removable medical cabin placed on a commercial flight,” said Orekunrin. “This reduces the cost of an aeromedical transport to less than the cost of a ground ambulance transport.”

Challenges facing this niche market “are similar to those for most of the aviation sector, cost being the most pertinent”.

However, research shows that specific constraints of the sector include getting the right personnel for the job, getting the appropriate aircraft, and considering the diversity of the kinds of injuries and sicknesses requiring different aircraft types for operation.

The current challenge of insecurity in certain parts of Nigeria, which the government is taking steps to address, is another limitation.

“We have more than 20 medical doctors, nurses and paramedics from different specialities working with us,” said Orekunrin.

GCS Safety Solutions MD, Michael Grüninger, believes education is important in providing safe air transport, and that supporting AfBAA is a positive step in the right direction. Marcella Nethersole reports.

Education is vital in the fight for air safety

Michael Grüninger is passionate when it comes to aircraft safety, and he has the credentials to know what he's talking about. He is a professional pilot and former Civil Aviation Authority (CAA) safety inspector. He still serves as a CAA-accepted compliance monitoring and safety manager in an air operators' certificate (AOC) holding company in Europe.

Grüninger is a well-known face at safety conferences around the world and has delivered speeches to highlight the importance of safety culture within aviation.

"Safety depends on mature relationships between diverse and unique individuals," he said. "The challenge is to grow together in such a way as to live up to the ambitions of a continually growing safety culture. I cannot understand why many of us let ourselves get distracted by the burden of bureaucratic issues, instead of focusing on the real-life issues that face aviation."

It was back in 2005 when the aviation community began to look at safety culture as an important topic that should be approached in a systematic way and, since day one of its corporate existence, GCS Safety Solutions (GCS) has focused on just that.

"At GCS we are keenly aware of the importance of the so-called non-technical or soft factors. A positive culture, successful human interaction patterns and the pleasure of working together, form the foundations on which solid technical skills flourish," said Grüninger.

"When it comes to safety aspects of operating aircraft, there shall not be any trade-off. We act as facilitator and bridge any know-how gaps or time constraints in this critical area within the aviation industry."



Safety solutions come in many forms for GCS, with Grüninger pointing out that the company's customers call when they have run out of options and, at times, in desperate need of help.

"GCS responds to such calls and provides the necessary know-how, knowledge, and resources to bring the customer to a successful certification, or to strengthen the organisation to be able to be fully operational again," said Grüninger. "For example, a start-up company wants to achieve an AOC certification, so GCS provides the project management and expert personnel to facilitate such an ambitious plan."

Grüninger offered other examples, including an aircraft operator failing to pass an audit, so GCS would hurry to provide the missing parts until the audit was closed with success.

"We are often confronted with last-minute requests by more or less desperate customers," said Grüninger. "GCS takes the ball from there. Our experts work on the problem and solve it for our customer. At GCS, we are absolutely result- and customer-oriented."



Michael Grüninger: "Safety depends on mature relationships between diverse and unique individuals."

“ I do not see any strong initiative taking place in Africa to educate new generations to take their own pro-active part in providing safe air transport.”

MICHAEL GRÜNINGER

The company comprises both commercial and non-commercial civil aviation and aviation authorities.

It works with customers all over the world but, as Grüninger pointed out, Africa is a continent that particularly poses a specific set of issues that can benefit from the expert input that GCS provides.

He said: “When it comes to Africa, the difficulty of communications in some areas, and air operations in remote areas, are part of the challenge. Unfortunately, in many places, qualified personnel are hard to recruit. GCS has, thus, been invited by a number of African operators in various countries to provide operational solutions and personnel development initiatives.

“We supported Angolan company, Bestfly, in achieving its international standard for business aircraft operations (ISBAO) stage 1 certification; we have trained an air operator in Gabon to tackle management issues it was facing; we have also consulted with major NGOs operating in various African areas with their own unique set of problems, including in South Sudan and the DRC, offering flight safety and operations management advice.”



Grüninger is keen to point out that he feels Africa is not a continent that cares less about flight safety than any other.

“Nobody wants to see air accidents happen,” he said. “However, I do not see any strong initiative taking place in Africa to educate new generations to take their own pro-active part in providing safe air transport. It is certainly a good move to support the African Business Aviation Association (AfBAA) in creating common ground on aviation safety and progress across the 54 diverse African states.”

He added: “Without the risk of being seen to have a too simplistic view of the real issues, I strongly believe that, by patiently creating ties of mutual respect, we can learn to accept good advice and experience from each other. Based on this view, we are prepared to share our experience and knowledge to accompany our partners on their way to excellence. I’m aware of the many difficulties the continent is facing, but also of the great human potential it bears.”

GCS is currently working on a new project with a major service provider to explore ways for it to share the company’s knowledge with local partners.

“We have worked with a number of smaller companies but this will give us access to a wider market and introduce us to a wider aviation network that we can work with,” said Grüninger. “GCS is very open for new customers, particularly in Africa.”

One message Grüninger likes to get across when he is offered a platform to speak about safety solutions is very simple: “Look at the core of the issues and work towards setting priorities right. Being humble is important, it helps in accepting the facts.”



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A new organisation for the world of aviation services was launched in Geneva at the European business aviation convention, EBACE, with a goal to help bring consistency to the sector in developing regions.



UMBRELLA ORGANISATION FOR AVIATION SERVICES

IASO board members from left: Roy Barnett, Samir Sajet, Munir Khalifa and Ali Alnaqbi.

The new non-profit organisation, the International Aviation Services Organization (IASO), was unveiled at a special event with representatives from airlines, regulators and governments. It will be headquartered in Switzerland.

“It could have been launched at the International Air Transport Association (IATA) or at the Farnborough International Air Show, but EBACE was the right place at the right time,” said Ali Alnaqbi, founding chairman of the Middle East and North Africa Business Aviation Association (MEBAA) and a member of the IASO board.

“The association covers all sectors and, for us, it is important that business aviation is involved at the very beginning.”

According to former Federal Aviation Administration (FAA) manager Roy Barnett, who is vice president for the new group, IASO’s mission is to provide a unified voice for aviation services companies at airports around the world.

Created by a board of directors with decades of international industry experience, the organisation will

champion key issues affecting the air freight, aviation services and logistics sector.

“Our goal is to improve safety and facilitate the highest standards in aviation services, working closely with established industry organisations to see how they can benefit in becoming an IASO member,” said Munir Khalifa, IASO president and founder.

IASO provides a direct representative link with other established associations, including the IATA, the International Civil Aviation Organization (ICAO), and MEBAA, he added.

IASO members will have access to an online database system – aviation ground services assessment (AGSA) – for auditing and measuring key risk factors, as well as discounted insurance and expeditious payment for services rendered. A sophisticated arbitration-resolution mechanism ensures IASO members have access to quality service.

Small industry supply companies can also benefit by utilising IASO’s resources with key tools, such as ground damage reporting tool, audit support and fuel price efficiency, Khalifa added.

Africa was named as one of the regions that could benefit from the new organisation.

“We know there are places where you can land and have no idea of the quality of safety of services. By working together we can establish consistent standards,” Alnaqbi said.

Founding board members include Chamsou Andjorin, director Africa and Middle East, aviation safety and regulatory affairs Boeing Commercial Airplanes, and Captain Samir Sajet from the World Food Programme (WFP).

IASO’s members will also be invited to collaborate and support humanitarian operations to eradicate world hunger through aligning with the “Helping Hands” World Food Programme.

“Providing WFP with our members’ expertise means we are not only doing our part for the good of the industry but also contributing to help others help themselves as we try to win the battle to defeat world hunger,” added Sajet.

Interested companies can apply for membership online at www.iaso-organization.org/memberships/membership-application with the option to select four levels of membership: Platinum, Gold, Silver and General.

Annual fees start at \$3,000.

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UNE NOUVELLE ORGANISATION REGROUPANT LES SERVICES DE L'AVIATION D'AFFAIRES

L'IASO a été lancée à Genève durant la convention EBACE. A but non lucratif, l'organisation dont le siège sera en Suisse, a été validée par des représentants des compagnies aériennes, les organismes de régulation et les gouvernements.

« Notre objectif est d'améliorer la sécurité et d'encourager la mise en place des normes dans le domaine des services de notre industrie en étroite collaboration avec les organisations existantes », soutient Munir Khalifa, président et fondateur de l'IASO.

L'ancien directeur de la FAA et directeur de l'IASO, Roy Barnett, souligne que l'association permettra aux prestataires de services de parler d'une voix commune au sein des aéroports du monde entier. Selon Ali Alnaqbi, président-fondateur du MEBAA, c'était important que l'aviation d'affaires

fasse partie dès sa genèse.

L'Afrique a été évoquée comme l'une des régions qui pourraient bénéficier de l'aide de cette nouvelle organisation.

« Nous savons qu'il existe des endroits où vous pouvez atterrir sans toutefois avoir une idée de la qualité des services concernant la sécurité. Nous pouvons mettre en place des standards internationaux en travaillant ensemble », souligne Ali Alnaqbi.

Les petits prestataires peuvent également bénéficier des ressources de l'organisation. A noter que les membres de l'IASO pourront collaborer aux opérations humanitaires pour éradiquer la faim dans le monde.

Une adhésion en ligne est possible sur le site :

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ENGINEERED WITH PASSION

South Africa may have more business jets, but Nigeria is cultivating an environment where the sector can thrive.

Liz Moscrop reports from Lagos.

Who wants to save a millionaire?

Dr Harold Demuren, the longest serving director general of the Nigerian Civil Aviation Authority (NCAA), is quite clear – killing the country's millionaires is not a good idea.

Africa's most celebrated aviation safety proponent was addressing 180 attendees at the third edition of the Nigerian Business Aviation Conference (NBAC) in March.

Demuren, a board member of the Flight Safety Foundation said: "You need to create a safety culture – not just rely on regulations alone.

"How do we help you to get to the highest standards? The answer is do more maintenance and training than you expect you need."

One year after the new government took power on an anti-corruption ticket, the mood was optimistic and determined.

Two days of panel sessions, populated by passionate players, created a powerful mood as everyone packed into the conference room upstairs at Lagos' Wheatbaker Hotel.

Organised by EAN Aviation, the great and the good of Nigeria's business aviation scene demonstrated a massive desire to make good the wrongs of the past and to create the dynamic sector Africa's second largest business aviation market has the potential to be.

There are 140 business aircraft in Nigeria, which is home to 174 million people over a land mass of 923,768sqkm, with only 35,900km of paved roads to take them from A to B.

And the roads aren't just sparse – they are

deadly. There are 35,621 road accident deaths annually – the highest in Africa.

A further 10,000 people die in the country every year because they can't get to hospital in time. There are just two air ambulance companies, 39 airstrips (26 of which are paved) serving 36 states and 159 oil refineries in difficult terrain.

A major contentious issue for the business aviation community is a brutal penalties regime. Many consider it unfair – if not sometimes downright illegal.

In 2006, when Nigeria signed the Cape Town Convention, the treaty allowed aircraft to be used as collateral. Part of that deal was that they are non-taxable, since they are deemed 'moveable assets'.



However, Nigeria imposes a 5% import duty on aircraft. To add to operators' woes, there is a further 5% import duty on essential spare parts, plus a yearly ground rent rate for infrastructure, plus a service charge on the ground rent, despite the fact they are already paying for the service. Throw into the mix a 5% tax on turnover (not profits) and the threat of a potential new 'luxury tax', and it's evident why investors have swerved away from pouring their dollars into the sector.

Another bite out of the meagre pie is the lack of major facilities for mandatory heavy checks. Operators spend more than \$305 million a year on overseas maintenance. There are plenty of

headaches when flying, too. Getting approvals and clearances is largely a manual process. Permits still take about six hours, possibly because there are 10 departments within six aviation agencies, so unscheduled operations and last-minute requests can prove to be a major headache.

So those gathered at the Wheatbaker had plenty to tackle.

EAN CEO, Segun Demuren, kicked off by pointing out that hiring more staff means more tax and revenue for the government. He said: "Business aviation helps generate more than \$219 billion in economic activity each year in the US, and has created 5,000 jobs in Nigeria. It has contributed \$685 million to our economy – 25% of what the entire aviation industry contributed to our GDP."

His words were heard. The newly appointed director of general aviation for the Nigerian Civil Aviation Authority (NGCA), Captain Dele Sasegbon, told attendees that he had several initiatives in place, and pledged to set up a user forum to assist entrepreneurs wanting to obtain an air operator's certificate (AOC).

He said: "If you want to start business with one aircraft you can do it, but go to a consultant and don't use the European Aviation Safety Agency (EASA) standard manuals. You need to adhere to the Nigerian regulations."

Engineer Ben Adeyileka, director of airworthiness standards, agreed: "The director general can award an AOC if he thinks you are

Dr Harold Demure: "You need to create a safety culture – not just rely on regulations alone."



Segun Demuren: "You need to adhere to the Nigerian regulations."

safe. You need a minimum of three post-holders to run an operation."

The explanation flagged up confusion, both within the NCAA and for operators wishing to adhere to the rules. It takes up to nine months to acquire an AOC. Izy Air's Alex Izinyon pointed out that, as soon as a company employs more than 12 staff, it moves into the "larger airlines" category, as far as the NCAA goes. Then it has to process its documents through all the relevant departments within the authority, most of which are operating manual systems.

Adeyileka promised: "We are reviewing small business operations on how to get an AOC. We will create a stakeholders' forum and decide how go forward."

Realistically, this will walk would-be operators through the stringent process of producing the documentation before they can apply.

Harold Demuren pointed out that being safe was not to be taken lightly. He said: "Some operators have no business in aviation at all. Owners need proper advice. If they are going to buy an aircraft, ask them, 'What do I need an aircraft for? Am I wealthy enough to take care of it?' Even if they don't use it, there are calendar items they need. They have to have the understanding that if they park the aircraft they can make some money to pay for insurance etc."

The grey market has been rife in Nigeria. However, that has declined somewhat under the new government.

Adeyileka explained that the NCAA takes

sanctions seriously should someone be caught. "We issue you a letter with a time period depending on the gravity of your offence. Okay, you may have good lawyers, but we've got good lawyers, too."

The participants had strong ideas on how to move the industry forward. They looked to countries such as China, Singapore and the UAE for guidance.

Achuzie Ezenagu, CEO of charter operator Toucan, said: "We need to make aviation part of our national pillars, like Singapore did. It has created the best airline, the best ports, and the best airport. It shows the gold standard of what can be done."



Another major issue is the lack of current aeronautical charts. Helicopter operators reported having to fly reconnaissance flights to add new GSM and TV station masts to their charts. They then share information.

Ezenagu added that one of his pilots had been given an out-of-date chart for Bauchi Airport. The runway was actually the other side of a hill three minutes' flight away. The correct chart existed, but the NCAA official had given the older one out.

There was general consensus that a public private partnership was the way forward to solve some of these issues. Ezenagu said: "Even if the government is not investing, individuals have resources to do that. Business aviation is a nation-building tool. It is an institutional

imperative for the nation to understand the importance of joining all the data points, including, or maybe starting, with aviation."

There was a general outcry against corruption. Panellist Patrick Osu, chairman of law firm Ajumogobia & Okeke, said: "Investors need to know 'Am I okay in your jurisdiction? Am I safe? Can I take my money out if I invest in your country?'"

The good news for Nigeria is that a US citizen spoke from the floor and indicated US banks are now looking at financing Nigerian business aircraft in a more favourable light.

Organiser Segun Demuren suggested starting with automation. "Nigeria needs to get to a point to know that being on the 5N registry is past patriotic duty. There are tax and maintenance benefits. Issues of dispatch and clearances come with the responsibility of registry. Give automation to a reputable company and they'll have it in place in six months. It can be a revenue-earning agency."

He added: "With the manual way there are leakages – fees going into people's pockets that we don't know about. Collecting 50% of what you should be collecting. We need to automate that and make a substantial profit. We keep the money and they run it for you."

The conference ended with new user groups formed, a commitment to more gatherings and information sharing, and a definite sense that, thanks to business aviation, Nigerian millionaires will continue to thrive, both literally and metaphorically.



AfBAA CEO Rady Fahmy: delighted that the organisation is spreading its wings.

Africa's remote possibilities

In the way that Africa leap-frogged landline telephone technology and instead embraced mobile communications, the continent could make the same jump as it takes on board remotely piloted aircraft systems (RPAS). And it will be helped on its way by the African Business Aviation Association (AfBAA).

Speaking at the European Business Aviation Convention & Exhibition (EBACE) event in Geneva, Rady Fahmy, AfBAA's chief executive, said that without the overcrowded and regulated skies of the US or Europe, Africa is proving ideal for operating RPAS. A lack of infrastructure could lead to a wide adoption of RPAS technologies, he added.

Already Zipwire – a US start-up backed by Google Ventures – will be using RPAS launched with compressed air to deliver blood and medical supplies in Rwanda, starting from this month.

“Many of our operators will be multi-modal,” said Fahmy. “Medevac is an important business aviation role. In Africa, we would expect the mining companies to be looking at RPAS too. That’s why we believe we should be taking it under the wing of AfBAA.”



The organisation will demonstrate this when it launches the RPAS forum alongside its conference (AfBAC) in Cape Town in November. It is an education event set to bridge traditional elements of business aviation with the technology of RPAS, Fahmy explained.

Cape Town is to become the base for the annual conference, which will always be held in November.

“South Africa is the largest market for business aviation in Africa,” Fahmy said. It is also affordable in terms of hotels and venues.”

AfBAA will follow on from the conference with a series of

Without the overcrowded and regulated skies of the US or Europe, Africa is proving ideal for operating RPAS.

round table discussions in different countries around Africa. “These will be focused on that particular area,” Fahmy said. “The events will be market-driven.”

The association is also planning to take an ‘Access Africa’ pavilion to different major events such as EBACE and the National Business Aviation Association (NBAA) gathering in the US.

“This is where African companies can look outside and also meet those people who are curious about business in Africa, who can get more information and talk candidly,” said Fahmy.

SOMMAIRE

ATOUTS ET POTENTIELS DES AVIONS PILOTÉS À DISTANCE

Tout comme l’Afrique a massivement adopté la téléphonie mobile par rapport à la téléphonie fixe, le continent peut aisément faire un pas de géant en s’appropriant les avions pilotés à distance (RPAS).

L’AfBAA soutiendra cette démarche comme l’a affirmé Rady Fahmy, son directeur général, à la conférence EBACE à Genève. « L’Afrique est le continent idéal pour l’exploitation des RPAS. Le manque d’infrastructures encouragerait son exploitation massive. »

Déjà, Zipwire, la start-up américaine soutenue par Google Ventures, utilisera le RPAS pour acheminer du sang et des fournitures médicales au Rwanda à partir de juillet.

Selon Rady Fahmy plusieurs opérateurs seront multimodaux.

Face à ses atouts dans plusieurs domaines, l’AfBAA a décidé de prendre ce projet sous ses ailes. L’association lancera le « RPAS Forum » durant sa conférence à Cape Town en novembre. Ce sera une plateforme de conscientisation pour combler le fossé entre certaines pratiques traditionnelles de l’aviation d’affaires et cette nouvelle technologie.

Cape Town accueillera désormais la conférence annuelle. Des tables rondes seront organisées à travers l’Afrique sur ce marché spécifique.

L’AfBAA envisage également d’aménager un pavillon « Access Africa » durant les événements majeurs comme EBACE et NBAA. Un moyen pour les entreprises africaines d’avoir accès au monde extérieur et de présenter le potentiel du business en Afrique.



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De nombreux spécialistes annoncent de belles perspectives de croissance pour l'Afrique mais des contraintes climatiques ou sécuritaires freinent souvent son développement. Les applications spatiales peuvent aider à soutenir cette croissance et améliorer les conditions de vie des populations africaines.

Sékou Ouedraogo milite pour la création d'une Agence Spatiale Africaine.

Une agence spatiale africaine pour améliorer les conditions de vie

Dans son ouvrage *L'Agence Spatiale Africaine Vecteur de développement*, paru chez L'Harmattan, Sékou Ouedraogo, chef de projet au sein du groupe Safran, soutient qu'il faut dans un premier temps se focaliser sur la formation des futurs cadres, l'exploitation de l'outil satellitaire au service du développement et les fondations de cette future agence en termes d'organisation et d'objectifs.

L'identification des applications satellitaires utiles au développement du continent permettrait d'assurer la sécurité intérieure (police, gendarmerie et sécurité civile, incluant la prévision et la prévention des catastrophes), extérieure et alimentaire (agriculture, gestion de l'eau et de la pêche), de garantir des conditions de vie décentes en améliorant l'aménagement du territoire dans une perspective de développement durable dans le domaine de la santé et de l'éducation et de favoriser le développement économique.



Certaines nations africaines possèdent un savoir-faire dans le domaine spatial. Il existe déjà des institutions nationales et régionales africaines spécialisées dans le domaine spatial notamment en Afrique du Sud, en Egypte, au Maroc ou en Tunisie.

L'Algérie est en train de finaliser la conception de son premier satellite national ALSAT-2B alors que le Nigéria projette d'envoyer un astronaute dans l'espace. Même si le Kenya n'a pas de satellite, le pays a un secteur des télécommunications développé.

Comme ces technologies sont onéreuses, une mutualisation des ressources africaines existant sur place et au niveau de la diaspora africaine expérimentée et immédiatement opérationnelle permettrait de les optimiser.

Malgré les disparités surtout en matière de nouvelles technologies, les pays africains pourront conjuguer leurs compétences

humaines et technologiques pour élaborer des programmes de sciences spatiales, de R&D et d'innovation. L'ensemble du continent pourra en bénéficier.

Après une analyse des difficultés de création et de développement ainsi que de l'efficacité des agences spatiales de l'Inde, du Brésil, de la Chine et de l'Europe, Sékou Ouedraogo est convaincu qu'une Agence Spatiale Africaine provoquera une « véritable émulation » au niveau africain en favorisant le déplacement des chercheurs africains et une concertation sur les problématiques majeures du continent.

L'Inde et le Brésil ont en effet des conditions climatiques et des écosystèmes proches de ceux du continent africain et parviennent à utiliser les applications spatiales pour leur développement intégral. Pourquoi pas l'Afrique.

« L'agence doit avoir les moyens financiers et institutionnels pour être le véritable leader de la construction d'une réelle politique spatiale africaine. Elle devra se doter d'une entité de commercialisation chargée de vendre brevets et applications au secteur privé spatial et ne devra

pas être gérée par des instances militaires », affirme Sékou Ouedraogo. Il souligne également la nécessité d'une coopération internationale. L'Afrique devra compter sur l'expertise et l'expérience des agences spatiales internationales pour mettre en place ce projet ambitieux mais réalisable.

Le projet est d'ailleurs accueilli favorablement par l'Agence Spatiale Européenne (ESA) qui apporte déjà son soutien à plusieurs projets « à vocation pacifique » à travers le monde. « Un meilleur accès à l'espace permettra certainement aux pays africains et à leurs populations d'améliorer la communication et la collecte des données à travers le continent pour mieux comprendre leur environnement. Ils pourront ainsi accéder à de nouvelles technologies en coopérant avec d'autres agences spatiales », déclare un porte-parole de l'ESA.

Il ajoute que l'agence européenne a toujours été proactive en matière de développement des ressources humaines en Afrique concernant surtout la formation sur l'observation terrestre. L'ESA a un partenariat solide avec le

SUMMARY

SPACE AGENCY COULD HELP IMPROVE LIVES

Many experts predict a period of technological growth for Africa – and the creation of an African Space Agency is but one example of an initiative that could help to generate improved living standards on the continent, at least according to author Sékou Ouedraogo, who is a project manager with France's huge Safran Group.

In his book, *L'Agence Spatiale Africaine Vecteur de développement*, Ouedraogo argues that the key focus should be on training future managers and exploiting satellite technology to develop and then create a continent-wide project.

Satellite applications will assist continental development and be important for police forces and civil security, as well as general communications.

Benefits would also include food production, water management and fisheries, health education and overall economic development.

Some African nations already have expertise in the space arena, including South Africa, Egypt, Morocco and Tunisia. Algeria is finalising the design of its first national satellite – ALSAT-2B – while Nigeria plans to send an astronaut into space.

Although Kenya has no satellite, the country does have a developed telecommunications sector.

Despite the technology being expensive, if African countries combine their human and technological resources to develop space science programmes, the entire continent will benefit, he concludes.



The Malindi tracking station in Kenya.

continent africain. Elle a signé deux accords de coopération avec le Gabon et le Kenya afin de suivre les lanceurs de l'ESA après leur lancement de la Guyane (française) pour mettre en orbite des satellites géostationnaires en utilisant des antennes basées à Libreville et à Malindi.

Le projet ESA-Gabon concerne le décryptage des données satellites pour étudier les océans, la

terre, l'atmosphère et leur interaction pour mieux cerner le réchauffement climatique. L'agence européenne et l'Afrique du Sud collaborent sur des activités spatiales liées à l'observation de la terre.

Quoi qu'il en soit, le 21^e siècle nous confirmera ou non, l'entrée de l'Afrique dans la conquête de l'espace.

L'initiative TIGER

En 2002, l'Agence Spatiale Européenne a lancé le TIGER Initiative pour promouvoir l'utilisation de l'observation de la terre (collecte, analyse et exploitation des informations) afin d'améliorer la gestion intégrée et durable des ressources en eau en Afrique (IWRM).

Ces données s'avèrent indispensables pour contrecarrer le manque d'eau au niveau régional et continental.

L'initiative soutient également les pays africains dans les domaines de la formation et de la R&D.

Les recommandations du TIGER Workshop 2016 tenu à Addis Abeba sous l'égide de l'UNEP, et qui a réuni 19 pays africains et 10 pays européens, serviront à élaborer le prochain plan d'action.



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The Togolese Government has built a new \$150 million passenger terminal at Gnassingbé Eyadéma International Airport (AIGE) in Lomé.

It is hoped it will become a regional hub for west and central Africa.

Togo president, Faure Gnassingbé, inaugurated the terminal, which was funded by the Export-Import (EXIM) Bank of China, on April 25 this year.

Latta Dokisime Gnama, director general of Togo's Civil Aviation Authority, said the terminal could accommodate up to three million passengers per year. "This is one of the most modern passenger terminals in Africa," he added.

The China Airport Construction Group (CACC) and fellow Chinese company, Wietec, carried out the design and construction.

Work on the project began in 2012 and was completed in July 2015. "Since then we have been testing and commissioning the facilities," Gnama explained.

The old terminal was able to accommodate 800,000 passengers per year. Its annual freight-handling capacity has been increased from 15,000 tonnes to 35,000 tonnes.

The new terminal is equipped with sophisticated security surveillance systems plus modern luggage and body-scanning machines. It has 12 check-in counters, six immigration counters and a number of security checkpoints. "We have the safest and most secure airport in the region," said Gnama.

The new terminal houses modern restaurants and cafes, lounges, VIP lounges and spacious duty-free shops, plus a free WiFi service.

According to Gnama, the new airport is part of the Togolese Government's vision to make Lomé a regional air transport hub in west Africa. "We want to make it a big hub. The construction of this new terminal will boost air travel in the region,

THERE'S NO PLACE LIKE LOMÉ...

Lomé aspires to become the regional hub with a new state-of-the-art passenger terminal, as Kaleyesus Bekele discovers.

«Les atouts de Lomé» – Page 72

thereby facilitating trade and tourism. We want to promote trade and tourism."

Gnama believes that the new terminal will enable the Togolese capital to attract more international carriers. Lomé is the home base of Asky Airlines, the pan-African airline launched by the private sector in west Africa in 2010.

Twelve international airlines, including Ethiopian Airlines, Brussels Airlines, Air France, Royal Air Maroc, Air Côte d'Ivoire and Air Burkina fly to Lomé, which is Ethiopian's second hub. The airline flies to Sao Polo via Lomé and, as of July 2016, it will launch a service to New York through the airport.

Gnama said the partnership between Asky and Ethiopian Airlines was an example of pan-African cooperation that was worth being emulated by other African nations.

He added that, on completion of the new terminal, more airlines had shown an interest in adding

Continued on Page 72



Latta Dokisime Gnama, director general of the Togo's Civil Aviation Authority.

CONTINUED FROM PAGE 71

Lomé to their route networks. According to him, Turkish Airlines, Kenya Airways, EgyptAir, Arik Air and ECAir have said they plan to launch flights to Lomé.

A cargo airline from Nigeria also wants to operate to the airport.

The Togolese Civil Aviation Authority administers seven airports, two of which – Lomé and Niamtougou – are international. The authority plans to upgrade the other airports.

“In the near future we shall extend the runway of Niamtougou Airport and upgrade the other airports,” said Gnana, who also spoke of his country’s proud safety record. “We’ve not had an air accident since 1996,” he said. “We have stringent safety oversight regulations, which are compliant with International Civil Aviation Organization (ICAO) regulations. Securing an air operators’ certificate (AOC) is not an easy task here.”

According to Gnana, the Togolese Government gives due attention to the development of air transport and tourism. The new airport, he said, was a gift to the Togolese people from President Gnassingbé.

SOMMAIRE

LES ATOUTS DE LOMÉ

Le président togolais Faure Gnassingbé a inauguré en avril dernier ce terminal moderne financé par l'EXIM Bank de Chine. Son coût est estimé à 150 millions USD. Selon Latta Dokisime Gnana, directeur général de l'aviation civile, il pourrait accueillir jusqu'à trois millions de passagers annuellement. La capacité de fret passera de 15000 à 35000 tonnes.

Le nouveau terminal est doté de systèmes de surveillance et de sécurité sophistiqués ainsi que des équipements de détection des passagers et des bagages.



« Nous avons l'aéroport le plus sûr dans la région », affirme Latta Gnana. Le gouvernement togolais veut transformer Lomé en une plaque tournante régionale en Afrique occidentale. Le terminal stimulera le trafic aérien et par extension, le commerce et le tourisme.

Le nouveau terminal devrait attirer davantage de transporteurs internationaux. Lomé est déjà la base de la compagnie panafricaine Asky Airlines. Douze compagnies aériennes internationales volent déjà vers Lomé, le deuxième hub d'Ethiopie.

La réglementation en vigueur est conforme aux normes de l'OACI.

KALEYESUS BEKELE.



La transformation de

Le Premier ministre ivoirien, Daniel Kablan Duncan, a constaté de visu l'évolution des travaux en décembre dernier, à la tête d'une délégation gouvernementale et en présence des responsables d'AERIA, initiateur du programme d'investissements. Ils se décomposent en deux volets, prévus d'ici à 2020 pour « adapter l'aéroport aux enjeux de la prochaine décennie ». A noter qu'AERIA est titulaire de la concession pour son exploitation et son aménagement.

L'aéroport pourra ainsi avoir des plages horaires d'atterrissage et de décollage très denses. D'où, la nécessité d'aménager un taxiway parallèle pour fluidifier le trafic sur la piste et d'étendre les parkings pour le stationnement des avions aux heures de pointe.

Ces travaux sont en droit fil avec le programme de rénovation et de développement entrepris depuis trois ans. La piste était compatible pour l'atterrissage de l'A380 mais il a fallu agrandir le parking des avions pour le « loger ». Toute la zone d'embarquement a été entièrement redessinée en intégrant de nouveaux concepts au niveau du circuit des passagers, des boutiques « walkthrough », de la restauration et surtout du nouveau salon business.

L'agrandissement du terminal international se fera en deux phases. La première phase concernera les zones d'enregistrement et de livraison des bagages. La seconde aura lieu entre 2020 et 2025 pour aboutir à une capacité de 7 à 9 millions de passagers.

Avec un trafic d'un 1,5 millions de passagers en 2015, les autorités ivoiriennes visent à passer rapidement de

L'aéroport international Félix-Houphouët-Boigny d'Abidjan fait peau neuve pour être plus compétitif et devenir un hub. Environ 100 millions d'euros seront investis d'ici à 2020. Vincent Chappard a interrogé Gilles Darriau, directeur général d'AERIA, sur les développements de l'aéroport ivoirien.

1,7 en 2016 à 2,5 millions de passagers accueillis au sein de l'aérogare internationale alors que le terminal accueillant les vols domestiques et du hadj a une capacité de 200 000 passagers.

Les services aux passagers seront également améliorés avec la mise en place d'un système biométrique au niveau des contrôles policiers (émigration, immigration) et du suivi du passager tout au long de son parcours aéroportuaire, du parking automobile jusqu'à l'avion et vice versa, pour lui assurer un confort maximal au meilleur prix.

Le développement du fret est un autre volet important du projet global. Les autorités souhaitent augmenter le volume de 20 000 tonnes à 50 000 tonnes pour que « l'aéroport d'Abidjan soit l'un des plus compétitifs de l'Afrique de l'Ouest ». Les travaux d'extension et de modernisation de la zone fret en qui devraient être achevés cette année, sont financés par l'Etat.

Le respect des échéances des travaux et une exploitation judicieuse de ces investissements d'envergure devraient permettre à l'aéroport international d'Abidjan de jouer un rôle accru en l'Afrique de l'ouest.

SUMMARY

ABIDJAN ENJOYS HUGE FACELIFT

Abidjan's Felix-Houphouët-Boigny International Airport is having a €100 million (\$113m) facelift, says Gilles Darriau, CEO of Ivorian airport operator AERIA.

One major initiative is the creation of a parallel taxiway to facilitate enhanced traffic flow and extend aircraft parking – including Airbus A380s – at peak times. There will also be redesigned passenger facilities, boutique shopping areas and the all-important business lounge.

The second phase, between 2020 and 2025, will increase the airport's annual passenger capacity to around nine million.

The Ivorian authorities aim to increase the expected total of 1.7 international passengers in 2016 to 2.5 million, while the domestic terminal will have a capacity of 200,000 passengers.

Freight development is another important part of the overall project and the plans will increase the annual volume of 20,000 tonnes to 50,000 tonnes.

Darriau believes that growth in air traffic will be pan-African. "Successful airports must be able to handle 'super spikes' of traffic. The location must also be central, as is the case with Abidjan."

He added that airports must also be in a sufficiently large economic centre to generate point-to-point traffic. "Systems should give incoming and outgoing passengers a good feeling as they are the revenue generators. We want this airport to maintain its Ivorian culture and also to operate to the highest international standards."

□ □ □ □ □

Turning to the future, he said: "We have high traffic to France with Air France's A380s and the return of Corsair. Air Côte d'Ivoire continues to expand its network, with a new order for four Airbus A320neos. The airport has a daily Emirates flight and frequent flights from Turkish Airlines."

"We're also fortunate to have flights from Royal Air Maroc (RAM) and Air Algérie, serving Mediterranean destinations, and we are also working with South African Airways to have a better service."

"My biggest ambition is to open a direct service to the USA, as our studies show a potential of up to 50,000 passengers annually."

The airport has held Transportation Security Administration (TSA) certification to operate to the USA since 2015.

"Airport security levels are already high. We have introduced extra controls in the public areas of the terminal and are introducing additional random checks with dogs and explosive detectors," he concluded.



L'aéroport d'Abidjan

Trois questions à Gilles Darriau, directeur général d'AERIA.
« Concilier culture ivoirienne et meilleurs standards internationaux »

Q : D'où viendra la croissance du trafic aérien ?

A : Elle sera essentiellement panafricaine. Tous les aéroports de la région veulent être des hubs mais il y a des conditions sine qua none. Il faut avoir des compagnies aériennes qui le permettent et un aéroport adapté à gérer des « hyper pointes » de trafic. Il faut être dimensionné à la pointe de trafic, ce n'est pas toujours évident. La troisième condition, c'est la localisation qui doit être centrale. C'est le cas d'Abidjan situé entre l'Afrique de l'Ouest et l'Afrique de l'Est. Il faut également que ce soit une métropole économique suffisamment conséquente pour générer du point à point. Dans le cas d'un hub, si vous voulez amortir vos installations, il faut des passagers qui arrivent chez vous et partent de chez vous. Ce sont ces passagers qui génèrent les revenus. On veut que cet aéroport garde sa culture ivoirienne et qu'il soit en même temps aux meilleurs standards internationaux.



Gilles Darriau.

Q : Quel est le plan de vol de l'aéroport d'Abidjan ?

A : Nous avons un fort trafic vers la France avec l'A380 d'Air France et le retour de Corsair. Air Côte d'Ivoire continue le développement de son réseau avec une nouvelle commande de 4 Airbus A320. C'est la première compagnie cliente de l'A320

NEO en Afrique. L'aéroport dispose d'un vol quotidien avec Emirates et quasiment un vol quotidien avec Turkish Airlines. On a la chance d'avoir RAM et Air Algérie, avec une desserte du bassin méditerranéen intéressante. On travaille avec South African Airways pour avoir une meilleure desserte avec l'Afrique du Sud. On a également eu les autorisations en 2015 de la TSA pour assurer des vols vers les États-Unis. Mon plus grand champ de prospection est d'ouvrir une desserte directe vers les États-Unis. Nos études montrent un potentiel de 30 à 50 000 passagers annuellement.

Q : Parlez-nous des travaux de sécurisation au sein de l'aéroport.

A : Depuis 2015, nous avons la certification TSA pour opérer vers les USA. Le niveau de sûreté de l'aéroport est déjà correct. Nous avons pris des mesures de contrôle supplémentaires concernant les parties publiques de l'aérogare. Nous filtrons

davantage et faisons des contrôles aléatoires (chien et détecteur d'explosifs) sur les bagages qui rentrent. Côté sortie (pour les accompagnants), on fait en sorte qu'ils n'aient aucun bagage. Ils peuvent ainsi passer sous un portique de sécurité.

*Airport improvements are being completed throughout Kenya. However, as **Githae Mwaniki** explains, there are still worries over the country's oversight regulation policy.*



Wilson Airport.

The Kenyan aviation industry serves as a hub for east Africa, mainly due to Nairobi's central location. Airport improvements are taking place throughout Kenya, yet the country's aviation policy has still come under fire from some critics.

Two agencies oversee industry operations – the Kenya Airports Authority (KAA) and the Kenya Civil Aviation Authority (KCAA). The KAA is responsible for managing all airports and airstrips, while the KCAA is the industry regulator. Its board of directors is appointed by the cabinet secretary for transport and infrastructure. Its chairman is a presidential appointee.

It manages Jomo Kenyatta International Airport (JKIA) in Nairobi, Moi International Airport in Mombasa, Kisumu International Airport, Eldoret International Airport, Wilson Airport, Lokichoggio Airport, Malindi Airport, Wajir Airport and the Manda and Ukunda airstrips.

Now, however, an act of parliament is being amended to reform its corporate governance structure.



The new Bill significantly amends how the board is appointed and its role in governance. It also reviews the authority's management terms of safety, security, land and environment management.

However, the major policy challenge that some people are concerned about is that the KAA is framed in law as an authority. According to some, this implies that it has regulatory functions, as opposed to International Civil Aviation Organization (ICAO) recommended best practice that it should be constituted as a service provider to be regulated by the CAA to ensure it meets accepted international standards, with a clear mechanism to address deficiencies in service provision.

The KCAA is considered by many to be grossly underfunded for its regulatory

INVESTMENT CAN'T HIDE THE CHALLENGES FACING KENYA

function and a further complication is that, due to a potential weakness in the law, it lacks full regulatory oversight of Kenya's airports.

The financial status of the KAA also provides a further challenge for effective regulation as it collects parking and landing fees, in addition to other concessions and rates from land. It operates on a budget that is in excess of \$120 million and is profitable. In contrast, the KCAA has the role of regulating the industry and providing air navigation services, but it runs on a budget of just \$30-40 million, with the majority of its income coming from the air navigation department. However, it has an operational deficit that compels it to seek development partners to implement some of its key programmes, including various air navigation, infrastructure and personnel initiatives.

The current situation, where the KAA seeks loans from various development partners to finance key infrastructure projects, was highlighted when the proposed \$560 million JKIA Greenfield Terminal, planned to increase the airport's capacity to 20 million passengers, was recently cancelled due to financial constraints.

However, JKIA is currently in a much-improved state. The construction and commissioning of terminal 2, terminal 1A

and 1E has increased airport capacity by 2.5 million passengers to a total of 7.5 million passengers per annum, compared to the current annual demand of the 6.5 million.

Further modernisation to terminals 1B, C and D is expected to increase the overall capacity to 10.5 million.

The runway has also been resurfaced, additional runway exits constructed, and extension of the parallel taxiway and enhancement of the airfield ground lighting took place. The work has taken 12 months.

KAA has now engaged a consultant to design the second runway, after which it is expected to seek funding for construction.

Elsewhere in Kenya, other airports have also been improved.

Kisumu International Airport's upgrade was completed in 2012, with an expansion of the runway to 3,200 metres and a new terminal building.



Moi International Airport received repairs to its airside pavements, including airfield ground lighting and upgrading of the power and water supply.

Malindi Airport was recently upgraded with the construction of a new passenger terminal; Wajir Airport was handed over to KAA by the military to be used as a civilian airport; Ukunda Airstrip is currently being upgraded to extend the runway length from 1,100 metres to 2000 metres; and there are plans to extend Malindi Airport's runway from 1,500 metres to 2,500 metres.

The Manda Airstrip in Lamu has a new terminal building and its runway was extended from 1,000 metres to 2,000 metres. Lokichoggio Airport is also currently receiving an upgrade of its runway.

Eldoret Airport's infrastructure, in terms of airport terminal and runway length, meets its demand, and it is increasing cargo traffic, in addition to receiving more passenger airlines.

The KCAA is considered by many to be grossly underfunded for its regulatory function.



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Kaleyesus Bekele looks at the impact made at Ethiopia's Addis Ababa Bole International Airport by ICAS, the first private ground-handling company.

HANDLING A NEW IDEA IN ETHIOPIA

Private investment in the ground-handling service industry in Ethiopia was non-existent until recently.

The state-owned national flag-carrier, Ethiopian Airlines, was the only ground-handling service provider until 2015, when International Cargo and Aviation Service (ICAS) joined the market.

ICAS was established in 2005 as a logistics and cargo management company by MIDROC Ethiopia, an investment conglomerate owned by Ethiopian-born Saudi billionaire Sheik Mohammed Hussein Ali Alamoudi.

Sheik Mohammed is commonly referred to as the "father of the poor" in Ethiopia, as he always extends a helping hand to the country's needy. Besides his philanthropic works, he is known for his strong conviction that Africa needs more investment than aid. His belief is evidenced by his range of investments in several African countries.

MIDROC Ethiopia, and its affiliates, has established more than 150 companies in Ethiopia with an investment amounting to \$20 billion. Manufacturing, mining, agriculture, agro-industry, textile, hotel, tour and travel, catering and aviation are among the long list of investment ventures in which he has an interest.

Managed by Derege Yessuwork, an Ethiopian entrepreneur, ICAS launched operation in 2005 by managing the Ethiopian Customs Authority's main cargo warehouse and providing logistics and cargo-handling services.

ICAS operates a modern cargo terminal at the Addis Ababa Bole International Airport and owns cargo-handling machineries and trucks.

In 2007, ICAS secured an investment licence from the Ethiopian Investment Agency that enabled it to provide ground-handling services in Addis Ababa Bole International Airport. After securing the licence, ICAS procured the latest handling

machineries and equipment from French company TLD, at a cost of \$15 million. This included cargo forklifts, push-backs, towing tractors, ground power units, air starter units, air conditioning units, passenger steps, and passenger buses. Luxurious vehicles like Ford Lincolns and Audis were also imported for VIP passengers. The company's total investment exceeded \$20 million.



Mehari Abate, ICAS transit, warehouse and delivery service manager, said that although the company acquired all the required machinery and equipment, it could not launch its ground-handling service as planned in 2011 because of policy-related technical issues. "Since this was the first privately-owned ground handling company, certain provisions had to be made," he explained. "The necessary steps had to be taken by the Ethiopian Civil Aviation Authority (ECAA) and Ethiopian Airports Enterprise (EAE) to allow ICAS to conduct operations."

After long deliberations with senior government officials, ICAS secured its operation licence from the ECAA in October 2014.

"We prepared operating manuals and they were evaluated and approved by the ECAA," Abate said. "All our ground-handling machines and equipment, as well as our cargo terminal, were inspected and approved by the EAE."

Abate said that since investment in the ground-handling service was non-existent, there was no readily available trained manpower in the market. "We want to provide a premium ground-handling service that meets international standard. We imported the best equipment available in the international market. But, qualified and certified personnel were not readily

available," he explained.

ICAS recruited fresh university graduates and offered a one-year rigorous training programme in Addis Ababa. It also hired a prominent Greek ground-handling service company, Goldair Handling, to train its staff and also perform the daily operations alongside the local personnel.

Now, ICAS has more than 100 qualified and certified ground-handling employees. In addition to offering training programmes Goldair has been mentoring ICAS, enabling it to offer a world-class service.

Today, ICAS provides passenger-handling, ramp-handling and cargo-handling services for scheduled and non-scheduled flights to Addis Ababa. It has the capacity to look after four aircraft at a time.

When it launched its fully fledged ground-handling service in 2015, Qatar Airways was the launch customer. "When we became operational in November, the giant Gulf carrier was our first customer. Since then we have been serving them and they are happy with our services," Abate said.

ICAS also operates a partial ground-handling service to Kenya Airways. "We handle passengers of KQ," confirmed Abate.

In addition to the scheduled flight services, ICAS provides ground-handling services for executive flights coming from different parts of the world. "We handle business jets and give ground transportation to VIP passengers to their hotels and any locations in or out of Addis Ababa with luxurious vehicles," Abate said.

Sister companies Trans Nation Airways (TNA), Addis International Catering, Sheraton Addis and its affiliate car rental company, ABC, are working closely with ICAS.

"We are trying to attract more airlines. Our marketing and management team are approaching

"All ground-handling machines and equipment, as well as our cargo terminal, were inspected and approved by the EAE."

MEHARI ABATE



Mehari Abate:
a long wait for
handling
license.
Inset: ICAS
ready to serve
at Addis.

international airlines flying to Addis Ababa. There are also carriers who are approaching us by themselves in search of better services," said Abate. "Currently, there are on-going negotiations with different airlines. We are also trying to expand our ground-handling service to charter flights. We are dealing with aircraft management and flight facilitation companies that manage executive flights in the Middle East and Africa."

Speaking of the challenges ICAS faces Abate said: "As we are the first private ground-handling company there were many policy issues we had to deal with. Our licencing process took a prolonged time. We had 120 employees and we did not lay off any of them for more than eight

years, even though we were operating at a loss. Now, most of the problems are solved and the ECAA and the EAE are assisting us with the infrastructure requirements."

The company has not been profitable due to the prolonged time it took to secure the operating licence. It has been subsidised by MIDROC Ethiopia and that will need to continue until it manages to get more carriers on board.

The lack of availability of trained manpower is also a challenge along with congestion at the airport. "You do not find adequate working space at the airport. We need space for an office at the passenger terminal but it is congested. The EAE is now expanding the passenger

"Most of the problems are solved and the ECAA and the EAE are assisting us with the infrastructure requirements."

MEHARI ABATE

terminal so we believe that the problem will be solved once the massive expansion work is finalised," Abate said.

ICAS has proposed to build a luxurious VIP lounge at the new passenger terminal that the EAE is constructing at the airport. The lounge would host VIP and commercially important passengers. "Officials of the enterprise have accepted our proposal with delight. They told us that they would deal with our request once the construction of the new terminal is completed," said Abate.

ICAS has a plan to branch out into other African countries. "Once we make ourselves successful in Ethiopia, we will open branch offices in other African countries," confirmed Yessuwork.



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The airport on St Helena – the small island in the south Atlantic around 1,200 miles off Africa’s west coast – is becoming operational. But, as **Samantha Wellard** reports, the project has not always gone without a hitch.

BIRTH PAINS FOR ST HELENA’S NEW AIRPORT

The run-up to the opening of the new airport on St Helena has not been smooth.

The idea for air access to St Helena was first conceived back in 2005 but, in 2009, the UK Government decided to delay the development.

However, in July 2010 the Secretary of State for International Development, Andrew Mitchell, released a statement confirming the financing of the airport.

He said: “We would be willing to finance an airport for St Helena on condition that: an acceptable contract price is achieved; the risk of cost and time overruns after the award of the contract is addressed; the airport design is approved by Air Safety Support International (ASSI); and the St Helena Government undertakes to implement the reforms needed to open the island’s economy to inward investment and increased tourism.”

By the following January, the invitation to tender documents had been completed and invitations were sent out to potential constructors Impregilo and Basil Read. A £201.5 million (\$290.6 million) contract was then signed with Basil Read in 2011, ready to begin building the following year.

Construction started in 2012 and, since then, the airport has been building up to its opening this year, with the first few months of 2016 providing many milestones for St Helena.

In April, British Airways, operated by Comair, signed up to be the first to fly scheduled flights to St Helena Airport. The return flights will operate weekly, every Saturday, departing from Johannesburg’s OR Tambo International Airport.

The first ever jet to land at the airport was operated by ExecuJet, to bring a team of ASSI personnel to St Helena in preparation for an audit. The aircraft travelled from Lanseria Airport and stopped to refuel at Walvis Bay in Namibia. On board were three pilots and eight passengers, with the team being led by senior aerodrome inspector, Justin Rothwell.

Later in April, British Airways and Comair operated the

first passenger jet to arrive at the airport – a Boeing 737-800. On board were Comair and Basil Read personnel, along with other passengers and a selection of spare parts to remain on the island for future repairs.

“The flight itself was a ‘non-event’ – beautiful over the sea with a fantastic view of the island coming into land,” noted Comair operations director Martin Louw.

“We did a few practice approaches just to make sure we understood the approach – safety is always paramount,” he added.

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The test-flight allowed for the carrier to make a route assessment and judge airside operations, passenger and cargo handling, training and various aspects of safety at the airport.

The flight did throw up one hiccup. It was discovered that turbulence and wind shear on the approach to Runway 20 were unsafe and further work needed to be completed to combat this. Two operational readiness trials have been completed since then, with volunteers acting as arriving and departing passengers. Gwyneth Howell, head of operations at St Helena Airport, said: “These trials have been a great success and a genuine achievement for all who volunteered to play a role on each day. I thank all of our volunteers.”

The airport finally received its safety certification in May, which is valid until November 2016. Unfortunately, that slight delay meant that the planned opening ceremony on May 21 had to be postponed.

It had been intended to hold a grand event with island residents, the governor, and HRH Prince Edward, all in attendance. An open day was held instead during May, with residents invited to visit the airport, ask questions and experience all its different areas.

A new date for the official opening ceremony had yet to be confirmed as *African Aerospace* was going to press.

Air traffic growth in Africa is spurring airport development. Now French consultancy and project engineering specialist, Egis Group, is tapping into its historical links with the continent to win more business.

Neelam Mathews reports.

Of the 14 airports that Egis, operates worldwide, five are in Africa – but the group’s build-up on the continent hasn’t been an overnight project.

The airports include Libreville (Gabon) since 1988; Abidjan (Ivory Coast) since 1995; and Brazzaville, Pointe Noire and Ollombo (the Republic of the Congo) since 2010.

Major airport development projects include Oran (Algeria), Nouakchott (Mauritania), Ouagadougou (Burkina Faso), and Djermaya-N’Djamena International Airport in Chad.

The company is also project manager for the on-going extension and modernisation of Nairobi’s Jomo Kenyatta International Airport (JKIA) terminals, with a total capacity of 7.5 million, up from 6.5 million.

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Egis was appointed project manager after the airport was damaged extensively in a dramatic fire in 2013. JKIA is now awaiting the final Federal Aviation Authority audit for Category 1 status that will permit direct flights between the US and Kenya.

Egis is no stranger to Africa. It first conducted a study on airbases in Cameroon in 1951.

“Jean-François Cazes, director general international, Egis Group, said: “In Africa the usual challenges persist that are not just specific to airports.”

He added that, with the continent’s air traffic increasing: “There should be steady and stable growth in traffic and (the environment) should be investor friendly.

“Investors need a long-term view to invest,” he said, indicating that further concerns included security. “Political stability is a very strong factor, but it is beyond our control.”



Why African airports continue to beckon Egis



EGIS plans for the restoration and development of terminal installations at Es-Senia Oran airport in Algeria.
PICTURE: CHANTIER ORAN

Now, however, Egis is reaping the reward for its long association with the continent.

It recently completed 20 engineering studies, valued at €550 million (\$625m), for the \$1 billion new N'Djamena International Airport in Chad, awarded by the Government to Chinese construction company CAMC-E.

The scope of services includes geotechnical, social and environmental studies, a 20k expressway, airport infrastructure including a 3,500 metre runway, a terminal with a capacity of one million passengers per year, control tower, and facilities such as the first wastewater treatment plant in the country.

Egis is also in charge of the airport scheduling and equipment. "The new infrastructure will replace the existing airport, landlocked in the Chadian capital," explained Nicolas Jachiet, chairman and CEO Egis Group.

Cazes added: "Soon construction of this ambitious project will start. Our team is fully mobilised as we are the project managers from design to supervision of construction." Commissioning is scheduled for 2020.

Further, the Government of Ivory Coast has entrusted Egis with the role of urban planner, developer and operator of a 450 hectare Abidjan 'airport city' – an innovative project located in a natural environment between the ocean and a lagoon. Egis is developing a project for a sustainable multifunctional city, a combination of hotels, commerce, service activities and housing.

The company also recently carried out studies and is supervising works for the new Nouakchott International Airport in Mauritania, scheduled to open end of this year. The airport will quadruple capacity to two million passengers a year and will be able to accommodate the Airbus A380.

Egis is currently participating in the new international airport at Ouagadougou in Burkina Faso. It has also completed a feasibility study for general composition plans of the terminal area for the long-term development of the Oran Es Senia Airport in Algeria.

Egis will provide an architectural approach to the design of the buildings, site monitoring and oversight of the works.

Expected to be completed by around 2018, an \$85 million loan from the World Bank will help finance the construction. A second expansion phase is planned for 2026-2030.

SOMMAIRE

EGIS ATTERRIT SUR LES AÉROPORTS AFRICAINS

Alors que la croissance du trafic aérien en Afrique stimule le développement aéroportuaire, le groupe français Egis conforte sa position dans les régions du centre et du nord du continent. Des détails avec Neelam Mathews.

Sur les 14 aéroports opérés par la société de conseil et de projet d'ingénierie à travers le monde, cinq sont en Afrique.

Egis est présent en Côte-d'Ivoire, au Congo et au Gabon. Les aéroports de Djermaya-N'Djamena, de Nouakchott, d'Oran et d'Ouagadougou comptent parmi ses principaux projets.

La société gère également les travaux d'extension et de modernisation de l'aéroport international Jomo Kenyatta de Nairobi lourdement endommagé par un incendie en 2013.

Selon Jean-François Cazes, directeur général à l'international d'Egis, les contraintes et les défis subsistent. « La croissance devrait être stable et l'environnement favorable aux investisseurs. Ils ont besoin d'une vision à long terme pour investir ». Il faut en parallèle résoudre les problèmes concernant la sécurité et la stabilité politique.

Egis connaît bien la région.

Le groupe a récemment effectué 20 études d'ingénierie pour un montant de 550 millions d'euros sur le nouvel aéroport international d'N'Djamena au Tchad. Nicolas Jachiet pdg du groupe a annoncé le lancement de ce projet ambitieux pour « bientôt ». « Notre équipe est pleinement mobilisée. Nous sommes responsables du projet de la conception à la supervision des travaux de construction. » La mise en service est prévue pour 2020. L'ASECNA assurera la partie opérationnelle du nouvel aéroport.

NIGERIA – THE CASE

Chukwu Emeke *talks to the experts exploring privatisation options for Nigeria’s airports.*

Since Nigeria attained its political independence in 1960, construction of airports and maintenance of their facilities have gulped up enormous resources from government.

Such capital injections, however, have often turned out to be drops in a mighty ocean, due to the capital-intensive nature of airport investment.

The Federal Airports Authority of Nigeria (FAAN), the government’s sole airport management agency, has not been able to attract reputable investors to its airports because of the absence of reliable financial statements, frequent changes in management, a lack of transparency in business transactions, and frequent interference in its operation by the supervising ministry, among other factors.

Out of the 22 airports managed by FAAN, only Nnamdi Azikiwe International Airport in Abuja, Port-Harcourt International Airport, Murtala Muhammed Airport in Lagos and Mallam Aminu Kano International Airport, have been able to generate enough traffic and revenue over the years to qualify them as viable.



Modern global trends in airport business indicate that a country like Nigeria, with more than 80 million people, many enjoying a leisure and business travel culture, requires significant private sector involvement in ownership and management of its economic gateways to achieve the expected level of airports’ input in national economic growth and development.

The advantage of air transportation system over the road is, particularly, its ability to link up the entire country within a very short time. Consequently, airports should exist with the primary objective of opening up the country for rapid development through the provision of facilities that ensure fast and direct access to the hinterland.

In the process of off-loading government-owned airports, or its facilities, to private concerns, the central features in agreements usually include capital injection, annual financial returns to government, airport facility improvements, protection of public



interest and other key factors. Airports all over the world are, today, seeking and embracing strategies for expansion of non-aeronautical revenue sources. This is being achieved through the adoption of various approaches to private sector involvement.

Olu Ohunayo, business development manager at Zenith Travels, proposes two privatisation options. “The existing FAAN should be transferred to a private organisation, which should be mandated to turn it around under a 10-year plan, after which the mandate should be reviewed,” he said.



“The UK experience of privatisation worked well in a mature political society. In a less developed country, like Nigeria, the government should be tilting towards building and enhancing the air transport system, rather than just offloading the assets. This is to avoid a situation whereby we move from ugly state-owned airports to even uglier privately owned airports.

“Most reputable private sector investors would not consider buying an airport with fewer than one million passengers. The government should, as a first step, invite reputable international airport management companies, who will often achieve what government can no

longer take care of – improvements in capacity, efficiency and safety. They will act as advisors or management consultants to government within a limited timeframe. During this period, the bid winner should be given a free hand to manage, restructure and position FAAN for either a private-public partnership or a partial privatisation.”

Ohunayo equally recommends the clustering option of airport privatisation. “If we insist on privatisation, then we should consider the clustering option, whereby a major airport is taken along with other unviable airports within the zone by a private concern. Clustering takes the airport in totality rather than the cherry-picking option.

“The Argentine took the 30 airports in totality, using funds from the viable to support the unviable ones.”

He added: “The Indians divided the airports into green field and brown field before privatising. To protect the public, airlines and other airport users, the Indian Government established an independent regulatory body to monitor and regulate the public and private airports. This ensured compliance to benchmark service levels and generally resist any form of monopolistic tendency.



“Even if you engage the best technocrats in the current development process, it will fail because it is structurally ineffective.”

DR WALE BABALAKIN

“They also set up a scheme called ‘viable gap funding’ to protect and support investors for non-viable airports. The government provides funds which can only be accessed by interested investors through a bidding process.”

Tunde Fagbemi, chairman of Maevis Aviation, agrees that: “Nigerian airports can be developed only when they are kept under private-public partnership arrangements.” He added that there was a need to prepare every state enterprise for privatisation in order to prevent conflict of interest in the process of implementation.

“Even if you engage the best technocrats in the current development process, it will fail because it is structurally ineffective,” commented Dr Wale Babalakin, chairman of Bi-courtney Aviation Services, which operates Murtala Muhammed Airport2 (MMA2) – the only existing private airport

FOR PRIVATISATION

terminal in Nigeria. He proposed a division of the nation's 22 airports into four zones. "Lagos zone, under a concession arrangement, can develop Lagos, Ibadan, Benin and Ilorin simultaneously," he said. "Abuja zone can develop Jos, Abuja, Kano and Minna. Port-Harcourt zone can develop Enugu, Owerri and that axis, while Kano zone can develop Sokoto and Maiduguri. All these should be done under a negotiated concession," he suggested.

Captain Roland Iyayi, CEO of Topbrass Aviation, believes that the management of various airports in Nigeria should be concessioned, while an Airports Commission should be established to supervise such private concerns.

The number of domestic airports ought



Port Harcourt - one of the few Nigerian airports that are operating viably.

to be an advantage, according to Engineer Sani Baba, CEO of the Nigeria infrastructure advisory facility, HRS Sabbar, and former CEO of FAAN. "MMA will stop being viable if you close the domestic airports. Airports should be planned around passenger needs rather than political motives," he said.

Stakeholders also suggest that government agencies like the Bureau of Public Enterprises (BPE), Infrastructure Concession & Regulatory Commission (ICRC), National Council on Privatisation (NCP), Nigerian Civil Aviation Authority (NCAA) and the Federal Ministry of Aviation should ensure transparency in any privatisation processes in order to attract more investors to the sector.

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In an exclusive interview, the International Civil Aviation Organization's president of the council, Dr Olumuyiwa Benard Aliu, explains to Keith Mwanalushi how ICAO is responding to air transport challenges throughout Africa.

Aliu opens the door to progress

Dr Olumuyiwa Benard Aliu began his tenure as ICAO president in January 2014. His three-year term in office is scheduled to end in December this year, although he could be re-elected for a further term.

Prior to his presidency, he was the Nigerian representative on the ICAO council, so his passion for aviation in general, and African air transport in particular, is profound.

There are a number of programmes that address air traffic management and aviation. One such initiative is the 'no country left behind (NCLB)' campaign, which highlights ICAO's efforts to assist countries in implementing appropriate standards and recommended practices (SARPs).

The main goal is to help ensure that SARP implementation is better harmonised globally so that all countries have access to the significant socio-economic benefits of safe and reliable air transport.

The NCLB programme also promotes ICAO efforts to resolve significant safety concerns (SSCs) brought to light through its safety oversight audits, as well as other safety, security and emissions-related objectives – clearly important throughout Africa.

Aliu said the programme continued to register significant success in the provision of support for states towards the attainment of regional safety targets, the establishment and strengthening of regional safety oversight organisations (RSOOs), and the building of safety oversight capacity at both state and regional levels.

"I'd also point out that NCLB

Continued
on Page 84
➔



Dr Olumuyiwa Benard Aliu:
No country should be left behind.

CONTINUED FROM PAGE 83

is much more than a specific programme in ICAO. Rather it is a cultural transformation and re-prioritisation, with the basic goal of assisting states to achieve effective implementation of ICAO SARPs and policies,” he said.

Aliu continued to explain that NCLB was affecting everything across all five of the ICAO council’s strategic objectives for global civil aviation – safety, capacity and efficiency, security and facilitation, economic development, and environmental protection.

“For decades, ICAO has served global aviation very well by forging a consensus among world governments on the norms reflected in the annexes to the Chicago Convention,” said Aliu. “Today there are more than 12,000 such provisions, which have been fundamental over the years in permitting us to harmonise and enable aviation’s remarkable global network.”

No country left behind recognises that SARP development is no longer enough with respect to ICAO’s role. “Our SARPs are only as effective as the commitments and resources that states can establish in support of them,” said Aliu. “It therefore refocuses ICAO on the assistance and capacity-building for certain states to aid them in the full and effective implementation of our SARPs.”



Aliu said this, in turn, realised safe and secure air transport services for states and, particularly, for the travelling public.

“This subsequently opens the door for states to global markets, enhanced tourism and trade, and more sustainable social and economic prosperity. This has always been the great promise of civil aviation and it is time that all states and regions had the tools and resources to realise these benefits,” he explained.

With respect to ICAO’s African/Indian Ocean (AFI) region, the implementation of the comprehensive regional implementation plan for aviation safety in Africa (AFI plan) is a major priority of the NCLB initiative.

Success under the AFI plan, according to Aliu, has been demonstrated by the recent resolution of some significant safety concerns in Africa, a trend which ICAO will, hopefully, ensure continues. “I would highlight here the substantial reduction of aircraft accidents and incidents in Africa over the last two years,” he said.

To date, 32 AFI states have adopted state-specific ICAO plans of action. The implementation of these schemes has contributed to significant improvements in aviation safety in the region. The organisation has also developed specific technical assistance projects either implemented, or set to be implemented, in a number of African countries with assistance from the ICAO safety fund (SAFE).

Airport and air navigation systems modernisation is seen as crucial for African

The first ICAO global aviation security plan is expected to be approved at the upcoming Assembly.



aviation development, but many of the challenges the continent faces are tied to shortfalls in funding and coordination.

Aliu feels the next focus should be on a joint programme to enhance aviation infrastructure, including airports and air navigation systems and technologies, in order to meet the current and future growth needs of the continent.

“ICAO is ready to work with the African Union (AU) Commission and relevant agencies, such as the United Nations development programme, the African Development Bank, and the programme on infrastructure development in Africa, in order to elaborate on and implement a comprehensive aviation infrastructure programme,” he said.



The world aviation forum, which ICAO hosted at the end of 2015, was specifically focused on fostering the operational and funding partnerships now needed to assure sustainable aviation development to meet the challenges of traffic growth now being projected.

“This was a very successful event and one we are repeating this September – the day before the launch of our 39th assembly – so that we can facilitate the greatest possible participation of the ministers and other senior officials who need to drive this process,” Aliu said.

Since the memorandum of cooperation

between the African Union and ICAO was signed in 2010, a high level of priority has been assigned to the full implementation of the Yamoussoukro Decision and the establishment of a single African air transport market. However, progress has been slow. “I cannot stress strongly enough how important it is to African aviation, and to the respective economic prosperity of African nations, that these efforts be supported by each and every one of the countries,” said Aliu.

“I’d stress that existing resources could be used more efficiently. Firstly, prioritisation of projects, generally speaking, is an issue. The modernisation of airport and air navigation infrastructure systems must be properly planned, and to facilitate this, nations should develop robust implementation plans to guide funding priorities and facilitate financial and executive commitment,” he suggested.

ICAO’s global air navigation plan and the aviation system block upgrade (ASBU) have a role to play here. Aliu said ICAO could help countries identify the key communications, navigation, surveillance (CNS), and air traffic management and aerodrome infrastructure to be prioritised, and advise as to the most cost-effective options – for example, the use of satellite-based equipment instead of terrestrials.

“These plans should be developed with a system-wide perspective in mind. In particular, it is important for states to enhance consultation to



facilitate the harmonisation of air traffic management systems. This will enhance compatibility and interoperability and will, accordingly, generate efficiencies,” he added.

Recently, Aliu held high-level talks in Nigeria regarding aviation growth in that country. So what are the main aviation priorities in Nigeria today?

Firstly, he began by congratulating the Nigerian Government for its significant efforts to improve compliance with ICAO SARPs, as demonstrated by the results of its last safety and security oversight audits.



In addition to setting a safety and security example for the region, he said Nigeria had recognised that the effective implementation of ICAO SARPs was critical to the socio-economic development opportunities offered by the global aviation network.

ICAO forecasts presently indicate that passenger and cargo traffic in Africa will grow at 5.3% and 5.6% per year respectively by 2030. “Although Nigeria is the most populous country on the continent, it was only ranked 11th in terms of African passenger traffic in 2014. We, therefore, have a particular expectation of traffic growth for Nigeria,” he said.

This should be facilitated by the fact that Nigeria is a signatory to the Yamoussoukro

Decision and Aliu agreed that the country should continue to pursue the progressive liberalisation of its air transport sector and, as a member of African Civil Aviation Commission (AFCAC), follow the regional liberalisation programme.

“It must also continue its administrative reform of aviation management. The functional autonomy of the civil aviation authority should be enhanced, in accordance with the Abuja safety targets, as should the autonomy of air navigation services and airports.”

Safety and security at airports is on the highest alert around the world in light of recent terrorist events and concerns over possible safety breaches at African airports have sprung up. “We are encouraging all African states to share resources and expertise to improve the aviation security and facilitation implementation, and I was particularly encouraged when African ministers adopted associated targets in Windhoek, Namibia, this past April,” he reported.



More specifically, ICAO is stressing the importance of conducting aviation security-related threat and risk assessments, proceeding with the implementation of suitable risk mitigation measures, and performing quality control inspections, audits and tests to ensure that such measures are implemented consistently and effectively. “We are also urging our member states to continue to enhance their travel document, border security and passenger identification programmes and processes.”

This September, during the 39th Assembly, ICAO expects its states to approve the development of their first-ever global aviation security plan, which will also become an important new tool in driving globally harmonised aviation security threat mitigation.

When the wireless telecommunications revolution took place, many commentators noted that some African states held the potential to benefit from a ‘leapfrog effect’ in terms of moving straight to wireless infrastructure, as opposed to evolving from wired to wireless services.

So, while the process in the telecommunications sector still faces some challenges in terms of the overall network capacity achieved and the speed of the expansion being seen, Aliu thinks there is a similar opportunity for many states on the African continent to commit to new investments in the latest airport and air navigation infrastructure.

As for his personal vision for Africa, he said it was consistent with the vision that ICAO has set out for the entire global air transport sector today – namely, that there must be no country left behind where the benefits of safe, secure and reliable air transport are concerned. “In this sense I hope to see Africa and its citizens enjoying equitable participation in international air transport,” he concluded.

SOMMAIRE

L'OACI FACE À DE NOUVEAUX DÉFIS EN AFRIQUE

Dans une interview exclusive accordée à Keith Mwanalushi, Dr Olumuyiwa Benard Aliu, président du conseil de l'OACI, explique comment l'organisation répond aux défis du transport aérien sur le continent africain.

Le Dr Aliu a pris ses fonctions janvier 2014 pour un mandat de trois ans. Il peut être réélu pour un nouveau mandat. Auparavant il a été le représentant du Nigeria au conseil de l'OACI.

Il s'est focalisé sur l'initiative NCLB (No Country Left Behind) qui vise à aider les pays à appliquer les normes de l'OACI et les pratiques recommandées SARP. Il s'agit essentiellement de les harmoniser à l'échelle mondiale afin que tous les pays puissent tirer des avantages socio-économiques d'un transport aérien sûr et fiable.

Le Dr Aliu a déclaré à African Aerospace que « ce programme a enregistré un grand succès en matière de sécurité régionale ». Il a souligné que le NCLB équivaut à une transformation culturelle et à une redéfinition des priorités. Ce programme a en effet un impact sur l'aviation civile mondiale.

« Pendant des décennies, l'OACI a très bien servi l'aviation mondiale en forgeant un consensus entre les gouvernements du monde entier. »

Selon le Dr Aliu, un transport aérien sûr et sécurisé pour les États et les passagers a facilité l'accès aux marchés internationaux et soutenu un développement touristique, commercial, économique et social accru et la prospérité plus durable.

L'une des priorités majeures du NCLB est l'application du plan de sécurité pour la région Afrique / océan Indien. Le Dr Aliu a souligné « la réduction substantielle des accidents et des incidents aériens en Afrique au cours des deux dernières années ».

Il est d'avis qu'à l'avenir l'accent doit être mis sur « un programme commun visant à améliorer les infrastructures aéroportuaires pour répondre aux besoins d'une croissance soutenue en Afrique ».

L'OACI est prête à travailler avec l'Union africaine et les organismes compétents pour réaliser ce projet de partenariat. Elle peut conseiller les États concernant les technologies de communication, de navigation, de surveillance, et de gestion du trafic aérien de même que l'infrastructure de l'aérodrome.

Il encourage par ailleurs tous les États africains à partager leurs ressources et leur expertise pour améliorer la sécurité. Lors de sa 39e assemblée générale, l'OACI souhaite que les États-membres approuveront le tout premier plan mondial de sûreté aérienne l'aviation.

Alors que le secteur des télécommunications fait toujours face à d'énormes défis, les États africains doivent investir dans l'infrastructure aéroportuaire et la navigation aérienne.

« J'espère voir l'Afrique et ses citoyens participer de manière équitable au développement du transport aérien international. »

Victoria Moores looks at the facts behind the LAM Mozambique Embraer 190 air crash as the final accident report is published.

Human tragedy of the LAM Mozambique air crash

Namibia has concluded that the fatal crash of a LAM Mozambique Embraer 190 on November 29 2013, which killed all 33 people on board, was most likely deliberately caused by the aircraft's 49-year old captain.

"The inputs to the auto flight systems by the person believed to be the captain, who remained alone on the flight deck when the person believed to be the co-pilot requested to go to the lavatory, caused the aircraft to depart from cruise flight to a sustained controlled descent and subsequent collision with the terrain," said the final accident report.

Recent pilot suicide events, including the Germanwings Airbus A320 crash in March 2015, led to recommendations that two people should remain on the flight deck at all times.

LAM Mozambique already had this policy in place and was credited by investigators as having "advanced proactive safety procedures that were way above the international minimum standards".

However, the report said there was no conversation after the first officer left the cockpit, suggesting this procedure was not followed. This was cited as a contributing factor.

LAM flight TM470 departed Maputo in Mozambique at 09:26UTC, bound for arrival at Luanda in Angola at 13:10, with 27 passengers, two pilots, three cabin crew and an engineer on board. The E190, registered C9-EMC (MSN19000581), was a year old and had been

inspected three flight hours earlier. Weather conditions were fine, with an 11kt wind, a few scattered clouds at 3,000ft, and unrestricted visibility.

The flight started normally and the crew were in radio contact with Gaborone Area Control Centre in Botswana during the cruise. "Most of the conversation in the cockpit for the first one hour and 50 minutes of the flight was dominated by general discussion about the country's politics and social activities.

There was a cordial, if not pleasant, conversation between the two crew members in the cockpit; at no point was there a hint of any unprocedural activities or other deviation," the report said.



Around an hour and 50 minutes into the flight, the first officer left the cockpit to use the lavatory. After his exit, the door electronically locked, leaving the captain alone on the flight deck.

At the time of the flight, one Gaborone controller was handling two sectors – Area East and Area West – covering Botswana's entire upper airspace.

This is normally a job for two people. The last communication between the crew and Gaborone control was at 10:19:32.



Namibian radar data shows the aircraft started a rapid descent from flight level (FL) 380 at 11:09:07, 72nm south of the AGRAM reporting point, which marks the handover between Gaborone and Luanda air traffic control. However, the controller did not notice TM470 deviate from its flight plan in the western sector because he was focused on a false conflict alert from the eastern sector.

At 11:06:36, the captain manually changed the altitude three times from 38,000ft to 592ft – compared with the crash site's elevation of 3,600ft above mean sea level (AMSL) – and altered the speed several times, until it neared maximum limits. Just under seven minutes after leaving the cockpit, the first officer started banging on the locked door. There were audible alerts sounding.

"Actions performed by the captain indicate explicit knowledge of the EMB-190 systems and, specifically, the automatic flight control system that is evident as the entire descent was conducted with the autopilot engaged and no force applied to the control columns," said the report. The inputs were "commanded rather than inadvertent", as they were logical counter-responses to the autopilot.

The E190 was lost from radar at 11:15:49. It descended at around 10,158ft/min at a speed "way higher" than 309 knots. "Speed brakes are displayed as being deployed, an indication of



SAFETY RECOMMENDATIONS

- The Mozambique Civil Aviation Authority should ensure that the two-person cockpit rule is adhered to at all times.
- The International Civil Aviation Organization (ICAO) should establish a working group into “threat management” from both sides of the cockpit door and stop authorised crew members from being locked out.
- The ICAO should look at visual recording, both inside and outside the cockpit, to establish who is in there, who is controlling the aircraft and where their hands are in relation to the controls.
- The ICAO should speed up its work on global flight tracking, including research and implementation of other methods beyond ELT systems.

desire to achieve the highest rate of descent in autopilot mode.”

The aircraft hit the ground in a remote area of the Bwabwata National Park, Namibia, at 11:16:04, with the flight control surfaces and gear retracted and the engines still running. Its aircraft nose pitch was approximately -8° degrees just before impact.

“The aircraft was intact before the first impact with the terrain,” said the report. “Due to the high rate of impact with terrain and the post-impact fire, the aircraft was totally destroyed and there were no survivors.” The debris stretched for 487 metres.

The report said there was no evidence of airframe or engine failure, system malfunction, depressurisation, stall, weight and balance problems, in-flight fire or explosion. The pilot made no distress calls.

At 11:17:33, after the impact, the LAM Mozambique crew failed to acknowledge instructions from the Botswanan controller about the Luanda handover and they did not report at AGRAM as expected at around 11:19.

The Gaborone controller did not initiate an alert when this mandatory reporting point was missed and the radar did not flag the rapid descent and flight plan deviation.

Despite these shortcomings, the report said: “There was no evidence to suggest that Air Traffic and Navigational Services (ATNS)

procedures and actions contributed to this accident.”

Around 12:40, the Namibian police received reports from Botswanan villagers, living near the border, of a low flying aircraft, explosions and a smoke column in Bwabwata National Park.

The remote site could only be accessed by all-terrain vehicles. During the afternoon, the weather deteriorated into rain and thunderstorms, so the search and rescue team were unable to locate the wreckage until around 07:00 on November 30.



One emergency locator transmitter (ELT) was found relatively intact, but its antenna cable was cut on impact, so global emergency centres received no signal. The report identified the ELT’s failure to activate as a “particular weakness” and questioned their effectiveness, citing Australian Transport Safety Board (ATSB) research, which showed they only work in 40-60% of cases where they should be triggered.

“Antennas are located usually on a remote part of the aircraft fuselage away from the actual ELT transmitter, which then requires a long cable that raises the possibility of disconnection when there is an accident,” said the report, suggesting the need for an integral antenna, similar to those used in mobile phones.

The cockpit voice and flight data recorders,

which were damaged by the heat of the fire, were found and sent to the America’s National Transportation Safety Board (NTSB) for analysis. The data was successfully retrieved and the last 12 minutes of the flight were reconstructed by Embraer test pilots on Azul’s E190 simulator in Brazil. The preliminary report was released on December 18 2013.

The 49-year old captain had accrued more than 9,000 flying hours, including 2,519 on the aircraft type. He held a valid medical certificate and had no restrictions on his licence.

The 24-year old first officer was relatively new to the E190. He had 1,183 flying hours, but only 101 on the type, accumulated over the previous 90 days.

Both crew members were properly rested – the captain had the previous day off – and both were well within their duty times.

However, according to family members and friends, the captain had been through “numerous life experiences” including a separation from his first wife, who he had not divorced almost 10 years later; the suspected suicide of his son, who died in a car accident on November 21 2012 and whose funeral he did not attend; and the fact that his youngest daughter had recently undergone heart surgery.

The investigators were not able to secure information on the captain’s financial position due to “huge” bureaucratic and legal hurdles.

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*Nigeria's Accident Investigation Bureau (AIB) has had a number of different problems to contend with over the years. Now, as **Chukwu Emeke** reports, things are improving rapidly.*

Nigeria ups its game on accident investigations

The seven member countries in the Banjul Accord Group Accident Investigation Agency (BAGAIA) include Cape Verde, Gambia, Ghana, Guinea, Liberia, Nigeria and Sierra Leone.

Of the seven, Nigeria is the biggest and the only member that has an independent accident investigation agency.

Some of the others have “very little aviation activities, with very few aircraft and air operator’s certificates”, according to BAGAIA commissioner Caj Frastell.

However, Nigeria’s accident investigation bureau (AIB) has, over the years, had to contend with various challenges, including inadequate human capacity and training, outdated regulations, delays resulting from the absence of laboratories, dependence on other parties to gather pathology reports, DNA and toxicology tests, and so on.

“The inability of past CEOs to upload major incidents and accident reports to the agency’s website also created a kind of mistrust and communication gap between the bureau and the public,” said AIB commissioner Dr Felix Abali.



Now, however, the bureau has started making improvement measures. It recently began the process of amending some of its regulations, negotiating a number of international agreements, and enhancing the country’s safety culture with an annual conference. It has also installed a multi-million dollar ultra-modern flight safety laboratory at Nnamdi Azikiwe Airport in Abuja.

Speaking at a recent stakeholders’ forum in Lagos about the draft amendment to the AIB regulations, Abali said the bureau’s enabling law, which also included the International Civil Aviation Organisation’s (ICAO) Annex 13, formed the bedrock of the regulations. The “proposed amended regulations will enhance our efficiency and further empower us to deliver on our mandate”.

He appealed to members of the public to show some understanding and patience during air mishaps, as accident investigations took time. “The process is more complex than many often imagine. We must be painstaking and thorough, so as to arrive at a conclusion that is not only fair and transparent but can also be scientifically proven,” he said.



Dr Felix Abali:
There was disconnect
between the authority
and the public.

Tunji Oketunbi, AIB head of public affairs, added: “Since the current policy, which was promulgated in November 2006, came into operation, there has been series of amendments to accident and incident investigation by the ICAO, especially to Annex 13 of the convention.” He said the management had noticed some gaps in the existing regulations, which the new one would seek to address.

A new safety awareness campaign will see an annual safety conference organised for airline operators, aviation agencies and other players. The programme emphasises the importance of accident prevention through safety consciousness among aviation personnel, incidents reporting system and the “just” culture.



Meanwhile, the AIB has signed a memorandum of understanding (MoU) with various foreign organisations to help enhance the speed and quality of its investigations. “At the international level, we have airframe and engine manufacturers involved. We do engine teardown. The National Transport Safety Board (NTSB) of USA is usually involved,” said Abali.

The recently installed flight safety laboratory in Abuja will minimise the need for travelling overseas for the download and analysis of data from flight recorders in the aftermath of accidents in Nigeria.

Abali said the laboratory was the first of its kind in the sub-region and would save Nigeria huge sums of money in the event of crash, as well as weeks or months of waiting for results to come back from overseas, while helping the bureau to facilitate its accident prevention programme.

Apart from downloading and analysing flight data, the lab has capacity to electronically reconstruct and provide animation of an accident flight, using radar and audio data.

Canadian company CAE Flightscape won the contract in 2011 to install the facility based on technology and processes originally developed at the Transportation Safety Board of Canada, the federal agency responsible for accident investigation in Canada.

AIB’s safety investigators have now completed special training on lab operations.

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Who is ATNS?

Air Traffic and Navigation Services SOC Limited (ATNS) provides **air traffic, navigation, training and associated services** within South Africa. ATNS is also responsible for Air Traffic Control throughout the **African Indian Ocean (AFI) region**, comprising approximately **10% of the world's airspace**. ATNS operates from nine ACSA and 12 other aerodromes. As a **globally competitive employer of choice**, ATNS is committed to diversity and has achieved ranking within the **top 10 companies** in South Africa with regards to female representation at executive levels.

Making Nigeria a safer place to fly...

For close to a decade, air accident rates in Nigeria have been dropping impressively. However, based on recent developments, stakeholders have become apprehensive. **Chukwu Emeke** reports.



Captain Noggie Meggison leads the call for improvements to infrastructure which will improve safety.

The numerous threats to safety of helicopter operations in Nigeria over the years include the absence of clear airspace rules and procedures.

In February 2016, an Aero Contractors flight from Lagos to Calabar could not land due to poor visibility and had to return to Lagos. The visibility was below the accepted weather minimum and there was no instrument landing system (ILS) at the airport.

The chairman of Airline Operators of Nigeria (AON), Captain Nogie Meggison, was reported in *African Aerospace* as saying that Nigerian airlines might be losing more than \$100 million annually because of forced cancellations due to poor visibility. He blamed navigational aid deficiencies for a situation that threatens safety.

Deputy managing director of Arik Air, Captain Ado Sanusi, wants the authorities to install ILS at the nation's airports to improve flight safety.

The Accident Investigation Bureau (AIB), in its final report on the serious incident at Lagos Airport on July 6 2015 involving flight UAE 782, a Boeing 777-200LR (registration A6-EWD) belonging to Emirates Airline, and Hak Air's B737-400 (registration 5N-BOU), recommended that "the Nigerian Airspace Management Agency (NAMA) should provide more information to crew as it relates to runway-in-use, lighting, parking advice and markings, among others." It stressed that air traffic controllers must be assertive on issues that affect safety at all times.

The challenges for helicopter operators in the Niger Delta area also calls for more stakeholder attention on improvement of safety standards.

The numerous threats to safety of helicopter operations in Nigeria over the years include the absence of clear airspace rules and procedures. Determining procedures has been largely left to the helicopter operators. There are also lower airspace radar issues and other human factors.

NAMA says it is making numerous efforts to make the nation's airspace safer. An air traffic management (ATM) assessment survey of the Niger Delta coastal area for the deployment of automatic dependent surveillance broadcast (ADS-B) has been completed.

NAMA CEO, engineer Abdulsalam Ibrahim, said last year that the project was aimed at deploying surveillance facilities to aid in the safe and effective monitoring and control of low-level helicopter operations in the oil-rich coastal areas. He

added: "NAMA has signed a commercial agreement with Exxon Mobile and has commenced the provision of air traffic services at Finima-Bonny airstrip. This is in addition to similar services currently being provided at other oil fields at Eket, Osubi, Escravos and Focados."

NAMA has also started providing a 24-hour en-route radar service to airspace users at both the Kano and Lagos area control centres (ACCs). The service had previously only been available on Mondays to Fridays from 7am to 7pm. The agency says the move is in line with its on-going digitalisation of the Nigerian airspace, stating that flight times would be further reduced due to direct routing, which would translate into reduced fuel consumption by the airlines.

The system will also boost preparedness in search and rescue operations.



Another initiative is NAMA's implementation of its communication, navigation, surveillance and ATM plan (CNS/ATM) in pursuit of the objectives of the Nigerian aviation masterplan, approved in January 2012, and the International Civil Aviation Organization (ICAO) global air navigation plan, as a measure towards the upgrade of air navigation infrastructure across the country.

The agency's six key projects are total VHF coverage, aeronautical information management, navigation, world geodetic system 84 survey, performance-based navigation, and the safe tower project.

The world geodetic system 84 survey project was designed to provide the required foundation for the planned migration to satellite-based navigation in Nigeria, while the performance-based navigation project is to deliver reduced flight delays and flight times, reduced fuel consumption, reduced CO2 emissions, reduced pilot and air traffic control workload, enhanced safety and efficiency of flight operations, while assisting airlines with optimum flight trajectories.

The safe tower project is designed to automate the ATM facilities at the control towers in Lagos, Abuja, Kano and Port Harcourt airports.

UNE GUICHET UNIQUE DANS

Bolloré Transports & Logistics est un opérateur mondial de logistique intégrée. Cette entité du groupe Bolloré est un acteur incontournable du fret en Afrique depuis plus de 50 ans. Dans un entretien avec Vincent Chappard, Hugues Marchessaux, directeur du développement des services aériens du groupe, évoque son expérience et les tendances du fret aérien sur le continent.

L'Afrique connaît un développement constant au niveau du fret. Le continent a enregistré une croissance annuelle de 7% au cours des sept dernières années. C'est une terre d'opportunités et de croissance pour les activités de Bolloré Transports & Logistics.

« Les perspectives de croissance du fret en Afrique ne sont pas conjoncturelles mais structurelles », rappelle Hugues Marchessaux.

Plusieurs facteurs favorables contribuent à cette dynamique : une population jeune et de grands ensembles urbains qui se sont développés en Afrique (Nairobi et Lagos entre autres). Cela se traduit par une demande accrue de biens de consommation.

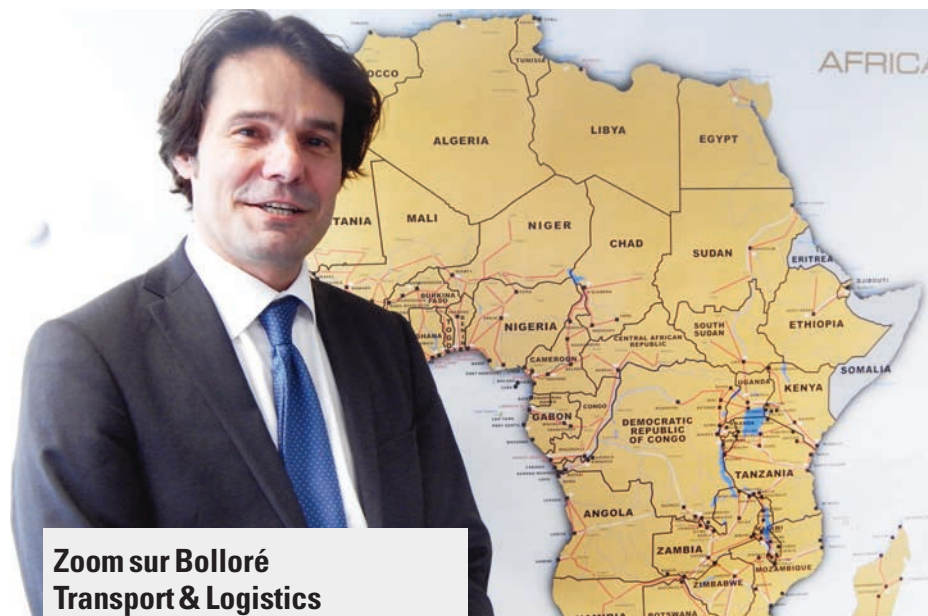
■ Des offres combinées privilégiées au « tout aérien »

Selon Hugues Marchessaux, l'offre aérienne en fret fait partie d'un ensemble. Les clients souhaitent disposer de solutions appropriées via des offres complètes et intégrées. Le marché du fret privilégie ce type d'offres alliant tous types de transports (bateau, train, route et aérien). Les clients évitent d'avoir une multitude de contacts et d'intervenants dans leurs chaînes logistiques. Ils ont un seul point d'entrée et une gestion simple des interfaces. Il souligne que « l'aspect douanier est une contrainte importante pour opérer du fret sur le continent ». L'Afrique est un continent très compliqués dans ce domaine. D'où la nécessité d'avoir des équipes bien implantées connaissant bien les pays et les réglementations.

■ L'émergence des corridors aériens

Bolloré réalise environ 65 à 70 000 tonnes à l'import annuellement soit une part de marché de 7 à 8% dans l'aérien. La force de ses opérations logistiques repose sur ce qu'on appelle les « corridors » aériens. Rappelons que 70% du fret est transporté dans la soute des avions commerciaux. Le fret aérien reste le transport de marchandises (fragiles et périssables) à haute valeur ajoutée.

Ces corridors permettent d'alimenter les grands centres de consommation qui n'ont pas de façades maritimes ou se situant dans des pays enclavés (Ethiopie, Mali, Niger, Tchad). Ces services se mettent en place en fonction des besoins. Aujourd'hui, il existe cinq à six pays qui tirent l'activité du fret aérien vers le haut et dans lesquels opèrent de grandes compagnies aériennes (Egyptair, Ethiopian, Kenya Airways, SAA, RAM) possédant des réseaux internationaux et intra africains. Les flux de fret deviennent de plus en plus concentrés.



Zoom sur Bolloré Transport & Logistics

Présent dans 48 pays africains, le groupe Bolloré est présent dans plusieurs secteurs ; le portuaire, le ferroviaire, la logistique classique (magasinage, entreposage), le transport routier et le fret aérien. Le service arien du groupe comprend les activités d'« Air Freight » (incluant environ 60 bureaux et une cinquantaine de magasins de fret aérien), de handling et de gestion de terminaux de fret aéroportuaire. Bolloré développe une activité de GSA avec 13 compagnies aériennes en portefeuille.

■ L'Asie et le Moyen-Orient montent en puissance

Bolloré est un gros consommateur de capacité de fret aérien en Europe, au Moyen-Orient et en Afrique. Une évolution constante a été notée ces dernières années. Même si l'axe Nord/Sud (Europe/Afrique) représente aujourd'hui plus de 60% du marché du fret aérien, l'Asie a multiplié par 7 ou par 8 son volume d'activités ces 10 dernières années. La Chine représente 8% des flux et l'Asie 12%. Il y a aussi une pénétration de plus en plus forte des compagnies du Moyen-Orient que ce soit au niveau passagers ou cargo.

« Le Moyen-Orient a parfaitement compris qu'il y avait un potentiel de développement important entre l'Afrique et l'Asie », assure Hugues Marchessaux.

On constate l'émergence d'un nouvel opérateur, à savoir Turkish Airlines, qui a « une

stratégie de déploiement assez agressive en Afrique ». Chaque année, la compagnie ouvre de nouvelles routes.

■ Les routes cargo peu équilibrées en Afrique

Quand on compare le fret aérien aux transports passagers, les routes-passagers sont équilibrées c'est-à-dire qu'il y a sensiblement autant de personnes voyageant dans un sens que dans l'autre. Alors que pour le fret aérien, c'est le plus souvent déséquilibré.

« Ce phénomène est encore plus déséquilibré en Afrique car vous avez 80% d'import et 20% d'export si vous opérez depuis le continent », rappelle Hugues Marchessaux.

Ce déséquilibre demeure une contrainte majeure pour le développement des réseaux cargos. S'il y a des marchandises pour « descendre », il est plus difficile de charger l'appareil pour le « remonter ». Un avion qui vole à vide coûte extrêmement cher et fait augmenter le prix du fret. C'est pourquoi, les grandes compagnies cargo se repositionnent sur les grands hubs d'Afrique pour recharger du fret.

■ La connectivité aérienne en Afrique pénalise également le fret

L'Afrique souffre d'un manque de connectivité aérienne. Même si l'accord de Yamoussoukro a été signé, il y a encore du travail pour développer

UNE TERRE D'OPPORTUNITÉS

le maillage sur le continent et concernant les droits de trafic. Cette tendance pénalise également le fret aérien d'autant plus que ces routes sont opérées par des avions moyen-courrier, ce qui limite la capacité de fret (2 à 3 tonnes par avion).

■ Des projets de « cargo-village »

Le continent africain manque encore cruellement d'infrastructures pour le fret mais beaucoup de chantiers ont été lancés. On constate l'émergence de projets de « cargo village ». Ce sont de nouveaux concepts logistiques situés à proximité des aéroports permettant de développer l'activité économique et d'utiliser l'aéroport comme vecteur d'entrée et de sortie. De tels projets sont en cours en Côte-d'Ivoire, en Ouganda et au Sénégal. Les compagnies aériennes misent également sur le fret aérien comme variable d'ajustement. Le fret est un élément qui conditionne la rentabilité des routes-passagers.

« Les développements aéroportuaires doivent combiner à la fois le transport des passagers et l'activité de fret aérien. »

SUMMARY

BOLLORÉ EXPLORES THE LAND OF OPPORTUNITIES

A major air freight logistics operator in Africa for more than half a century, Bolloré Logistics and Transport offers integrated services to its customers across the continent, where recent years have seen a steady annual growth of around 7%.

The company operates in 48 African countries, offering sea, rail, road and air freight, along with warehousing and storage. The company has 60 offices and 50 air freight stores on the continent.

Director of air service development, Hugh Marchessaux, describes the on-going increase in business as being akin to creating "a land of opportunities and growth as the prospects are not cyclical but structural".

Marchessaux explained that this dynamic is due to several factors, not least to a growing, young, urban population in various places such as Nairobi in Kenya and Lagos in Nigeria, allied with increased demand for consumer goods across the continent.

And, as cross-border logistics invariably involve dealing with customs officers and complex regulations, the ability to offer a 'one-stop-shop' is vital for stress-free transportation.

Bolloré's 'air corridors' are primarily in landlocked major consumer centres like Ethiopia, Mali, Niger and Chad, and they supplement routes offered by major airlines like EgyptAir, Ethiopian, Kenya Airways, South African Airways (SAA) and Royal Air Maroc (RAM).

A recent addition is Turkish Airlines that, according to Marchessaux, has a "fairly aggressive deployment strategy in Africa" with the airline constantly opening up new routes.

Bolloré's large cargo capacity is concentrated on freight from Europe and the Middle East into Africa, according to Marchessaux.

These routes represent around 60% of its cargo market, although Asia has increased by between 7% and 8% in volume terms over the past decade, with China also growing to represent around 8%.

Freight infrastructure is still in an embryonic stage in much of Africa but the growth of 'cargo villages', such as those near airports in the Ivory Coast, Uganda and Senegal, is also helping businesses to expand.



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Among the Ethiopian air force aircraft being kept operational by the new infusion of spares is a small number of extremely elderly Antonov An-12s, similar to this Sierra Leonean example.

Why the Ethiopian Air Force is going spare...

Ethiopia's air force has turned northwards – far northwards – in its efforts to keep some members of its elderly transport and training fleet airworthy.

Alan Dron has been finding out more.

The authorities in Addis Ababa have contracted Lithuanian maintenance specialist, FL Technics, to provide a spares supply for several of the Soviet-era types in the Ethiopian Air Force inventory: the Antonov An-12 medium transport, Antonov An-32 tactical transport and the Czech-built Aero L-39ZO Albatros advanced jet trainer.

The air force, Ye Ithopya Ayer Hayl in the English translation of the nation's Amharic language, has suffered long-term decline, with only small numbers of aircraft still operational in what used to be one of Africa's most powerful air arms.

Accurate estimates of the number of serviceable aircraft are difficult to come by. Some sources say as many as nine of the 1960s-vintage, four-turboprop An-12s are on strength, which would make them by far the most significant component of the force's transport fleet. However, *African Aerospace* reported last year that as few as two may still be operational. The other main transport type is the Lockheed C-130. According to Flight International's annual review of world air forces in 2015, two examples may still be usable, a single C-130E donated by the US in 2014 and an even more elderly B model.

The transport fleet has seen recent service employed on sorties as part of peacekeeping efforts in Sudan and South Sudan. The force is believed to have a single example of the An-32, whose oversized ZMKB Progress AI-20D turboprops provide sufficient power to cope with Ethiopia's hot-and-high conditions, as well as a handful of airworthy L-39ZOs, which can be used both as advanced trainers and for initial weapons training.

The new contract is the first Ethiopian order for FL Technics' military aircraft division, which has only recently been granted approved supplier status by the African nation's defence ministry. An initial batch of spares had already been delivered by the time the contract was formally announced in mid-March and the remainder of the contract was due to be completed by the summer.

"We greatly value our cooperation with the Ethiopian Air Force and hope that the successful execution of this contract will help us win the trust of the Ethiopian Ministry of Defence in future tenders," commented FL Technics CEO Zilvinas Lapinaskas. "We also anticipate that this tender will facilitate our communication with other military, as well as governmental aircraft operators, across Africa and the Middle East."

An FL Technics spokesman said the company would be providing "a wide range" of spares to Ethiopia, but that it was barred by the terms of the contract from going into details on the type of items to be supplied. A confidentiality clause also means that the company is forbidden from releasing any technical information relating to the current condition of the aircraft.

□□□□□

The last An-12 came off the Antonov production line in 1973, meaning even the youngest examples of the type are well into their fifth decade of service. The type has long been phased out from most air forces, although it remains in service with more than a dozen nations – mainly in Africa and Central Asia – and civilian versions are still popular as a freighter in Africa, due to the type's rugged design.

The slowly shrinking fleet means that spares are not as easy to come by as they used to be. But the former Soviet Union produced components in such quantity that they remain available if you know where to look.

"It's a challenging task, no doubt. And not every vendor can ensure timely supply of required parts," said the FL Technics spokesman. "Luckily, we maintain a vast network of partners, particularly in the CIS region, which allows us to locate and deliver the spares swiftly."

FL Technics will not be positioning personnel to Ethiopia to help maintain the aircraft, although it says it can dispatch staff to assist if required.

Une filiale dédiée à la maintenance pour Air Algérie

Vincent Chappard a interrogé Mohamed Salim Zouioueche, directeur de la maintenance et de réparation de la division Avions d'Air Algérie sur le savoir-faire et les projets de cette nouvelle filiale de la compagnie.

Air Algérie possède un véritable savoir-faire et des compétences dans la maintenance des avions. La compagnie compte 1250 employés pour ses opérations de maintenance dont 900 directement liés à la production.

L'atelier MRO de la compagnie prend en charge la maintenance de l'intégralité de la flotte de la compagnie nationale (y compris ses grandes visites). Elle est composée d'environ 50 avions (ATR, Boeing 737 & 767, Airbus A330). Air Algérie assure également la MRO des avions de Tassili Airlines, d'Air Express (transport du personnel des compagnies pétrolières et gazières) et de la protection civile (un avion Hercules).

Le site de maintenance situé à l'est d'Alger couvre une superficie de 24 hectares. Il est constitué d'un grand hangar pouvant accueillir tous les types d'avions, de l'ATR au Boeing 747. Il comprend aussi un centre de MRO pour les moteurs CF6-80 (Boeing 767 et Airbus A330), CFM56-7B (Boeing 737NG) et le PW100 qui équipe l'ATR.

« Nous avons investi dans un nouveau banc d'essais. Notre but est de pouvoir faire le démontage et le remontage complet des moteurs, » affirme Mohamed-Salim Zouioueche.

La base de maintenance d'Air Algérie fournit aussi la maintenance des auxiliaires de puissance (APU), des hélices d'ATR et des avions Hercules ou encore des roues, des freins et des sous-ensembles hydrauliques. Elle développe également ses compétences dans le domaine électronique. Des activités de chaudronnerie et de peinture sont rattachées au site.

La création d'une filiale autonome d'Air Algérie devrait permettre l'ouverture à l'étranger de sa base de maintenance pour pénétrer le marché régional (Afrique subsaharienne et les pays méditerranéens) et international. La flotte d'avions en Afrique représente environ 5% de la flotte mondiale et 2% au niveau de la maintenance.



Mohamed-Salim Zouioueche:
« La vocation de cette filiale de maintenance est de s'ouvrir au marché et de devenir un centre de profit. »

« La vocation de cette filiale de maintenance est de s'ouvrir au marché et de devenir un centre de profit, » rappelle Mohamed-Salim Zouioueche. « L'objectif est d'être un pôle régional et qu'Air Algérie en soit la référence. »

Cette filiale, reconnue pour ses compétences, mise donc sur des partenariats pour développer ses activités et de capter de la charge de sous-traitance des principaux acteurs du secteur MRO (ateliers MRO, équipementiers, avionneurs).

Un partenariat gagnant/gagnant a été récemment signé avec Rolls-Royce. Il permettra de consolider l'activité de réparation, de gestion et d'ingénierie.

Selon Michel Dubarry, directeur général de Rolls-Royce France, « c'est une façon d'avoir une stratégie à long terme et de créer une relation industrielle avec Air Algérie ». Elle concernera la formation, la qualification et le transfert technologique.

Air Algérie dispose des agréments EASA PART 145 et de l'aviation civile algérienne.

La nouvelle filiale d'Air Algérie se met donc en ordre de marche. Des négociations sont en cours avec des compagnies aériennes et des opérateurs MRO afin de sceller des coopérations et des partenariats. Sur le long terme, Air Algérie va diversifier ses activités de maintenance sur d'autres types d'avions et de moteurs.

■ Air Algérie densifie son réseau

Avec la création de sa nouvelle filiale de maintenance, Air Algérie va pouvoir se consacrer à sa vocation principale : le transport des passagers.

La compagnie vient récemment de réceptionner un nouveau Boeing 737-800 au sein de sa flotte. Elle doit prendre livraison de sept autres aéronefs d'ici la fin de l'année. Depuis l'an 2000, Air Algérie aura acquis 25 avions.

Selon les déclarations de Mohamed Bouderbala, directeur général d'Air Algérie, à la presse locale, « l'objectif de ces opérations d'acquisition est de couvrir l'ensemble des besoins de la compagnie et aussi d'ouvrir de nouvelles routes notamment vers l'Afrique ». Il s'agit, dans un premier temps, de Libreville, Khartoum et Addis-Abeba. Air Algérie prépare également l'ouverture d'une nouvelle route vers les Etats-Unis. A noter que Turkish Airlines et Air Algérie ont signé un accord de partage de codes.

Enfin, le rapport final des enquêteurs français sur le crash du vol d'Air Algérie ayant fait 116 morts au Mali en 2014 a été rendu public. Il montre que l'accident est principalement dû à la « non-activation » du système antigivre par l'équipage.

SUMMARY

MRO SUBSIDIARY FOR AIR ALGÉRIE

Air Algérie is creating an autonomous maintenance, repair and overhaul (MRO) subsidiary, named *Aéronefs d'Air Algérie*, as part of its restructuring and modernisation programme.

MRO divisional director, Mohamed Salim Zouioueche, said the company has 1,250 employees supporting the national airline's fleet of around 50 aircraft, including ATRs, Boeing 737s/767s and Airbus A330s. The airline also provides MRO services for Tassili Airlines, Air Express and civil protection Lockheed C-130 Hercules aircraft.

The MRO site occupies an area of 24 hectares, comprising a large hangar for anything from an ATR to a Boeing 747. It also includes an engines facility for GE's CF6-80 engines (Boeing 767s and Airbus A330s), CFM56-7B engines (Boeing 737NG) and the PW100 engines from the ATR.

A new test bench means that complete engines can be serviced.

The maintenance base of Algérie deals with auxiliary power units, ATR propellers and also wheels, brakes and hydraulic subassemblies on the C-130s.

Plenty in store for the AAD window shoppers

Africa's largest defence and aerospace meeting takes place near the South African capital in September.

Sam Basch takes a look at some of the highlights.

It is tempting to believe that South Africa is so much in need of new aircraft, especially for its military, that the Africa Aerospace and Defence (AAD) exhibition presents a good shopping opportunity.

Budget constraints, however, would see South African officials rather do some window-shopping this year, with actual buying deferred to a future date. That could very well be as early as next year or perhaps 2018/19 financial year.

This is not to say exhibitors will be wasting their time, effort and investment. AAD has traditionally attracted delegations from as far afield as south east Asia, Latin America and the Middle East, besides Africa itself, particularly southern Africa.



Just recently, Botswana has indicated a desire to buy Gripen fighter jets, and for the past number of years Nigeria has been filling its shopping basket for its campaign against the Boko Haram extremists. In fact, Africa continues to increase military spending year-on-year, contrary to the trend in most other regions of the world, except the Middle East, where significant military expenditures reflect deepening security threats.

"While total world military spending is mostly unchanged, some regions, such as the Middle East and much of Africa, are continuing to see rapid build-ups," said Dr Sam Perlo-Freeman, head of the Stockholm International Peace Research Institute's (SIPRI's) military expenditure project, last year.

It's small wonder, then, that AAD 2016 is a full house. According to the show organisers, 100% of its outdoor space is booked out, and 95% of its indoor capacity. All available chalets have been taken.



The Harvard Club and the SAAF Museum will have daily flying displays at AAD 2016.

AAD 2016 boasts 13 international pavilions, two more than the previous meeting in 2014, with Turkey's being the largest. Jordan also opted for a national pavilion, alongside the likes of Belgium, Germany, Italy, Switzerland, the UK, China, India, Russia, the Czech Republic and the USA.

First time participants include Australia, which is likely to view AAD as a gateway into Africa.

Armcor, the South African defence department's acquisition agency, which is hosting this ninth edition of AAD, stated that it was South Africa's biggest grossing event and is now ranked "in the top-five related exhibitions in the world".

This is according to Armcor chief executive, Kevin Wakeford. He felt it was significant that 60% of the exhibitors are repeat customers, which "bears testament to the value that AAD offers".

An innovation is the African Unity pavilion, designed to enable more African countries to participate. This has already attracted Namibia, Uganda and Sudan, the latter of which is even displaying two aircraft along with its maintenance and upgrade capabilities.

"The new pavilion will allow African companies in the aerospace, defence and manufacturing sector an opportunity to display their innovation and capabilities to other global players," Armcor stated.

AAD is hosted on a rotation basis by Armcor, the Commercial Aviation Association of South Africa (CAASA), and the Aerospace, Maritime

and Defence Industry Association (AMD). According to Wakeford, they have a "robust plan" to attract as many delegations and trade visitors from the entire southern African region and beyond.

Exhibition director, Leona Redelinghuys, confirmed invitations have gone out to 137 high-level foreign guests, including 32 defence ministers, 26 chiefs of defence and 28 air force chiefs.

From past experience, she is confident a significant proportion of the invitees will attend, especially the African ministerial and armed forces delegations.



What could these guests and other trade visitors expect to see, besides having the opportunity for top-level discussions and briefings?

According to AAD 2016 civilian flight director, JP Truter, many aircraft manufacturers only confirm the availability of their aircraft at a late stage. "We have firm confirmation of 27 civilian aircraft and several military types, but these numbers will certainly increase towards September 14, when the show opens for trade."

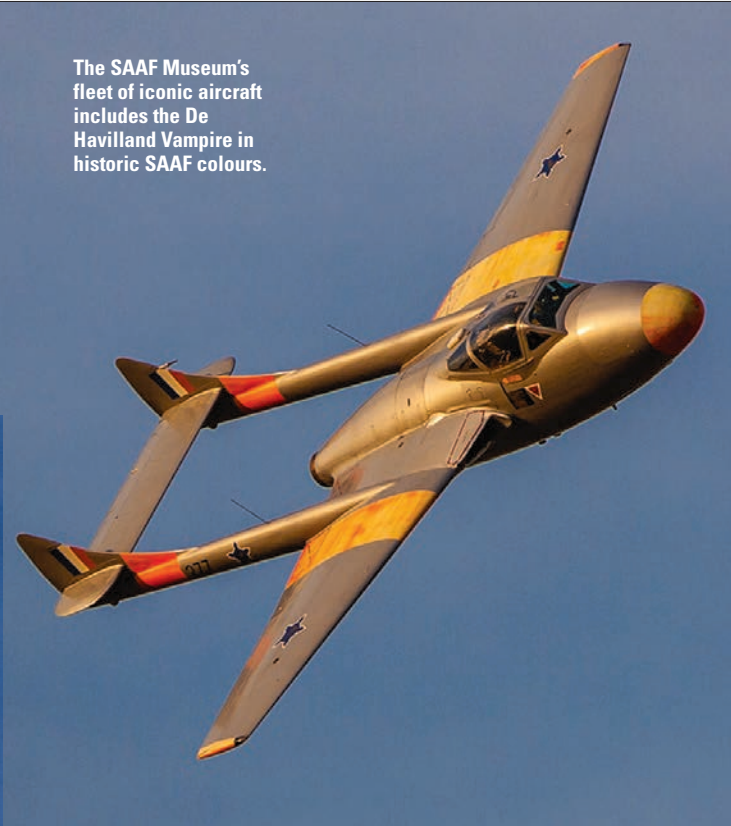
A first for South Africa and AAD is the confirmed presence of the Sukhoi Superjet 100, marketed by SuperJet International, an Italian-Russian joint venture company.

To date 78 of the SSJ100s have been delivered with 182 on order.

Truter expects its competitor Embraer and Bombardier aircraft to also participate at AAD,

The SAAF Museum's fleet of iconic aircraft includes the De Havilland Vampire in historic SAAF colours.

The SAAF Silver Falcons aerobatic team in action at the air show.



especially as airlines operating these aircraft make use of the show's 'daily visitor' scheme.

"AAD invites the airlines, like South African Airways (official airline partner), SA Express and Airlink to visit the show as and when their operations allow, and even to participate in the daily flying display. Most of their usual fees are waived, and this affords an opportunity to showcase the aircraft types. SA Express and Airlink operate Bombardier and Embraer aircraft," Truter explained.

Other manufacturers, such as Dassault, Airbus, Boeing, Beechcraft and Gulfstream, and local distributors NAC and ExecuJet, have traditionally supported AAD well, and will bring their latest models of fixed-wing aircraft and helicopters once again this year.

Despite South Africa being a long-haul destination for overseas companies, which implies a significant outlay on their part, Armscor is convinced AAD will see the return of some of the leading manufacturers in aerospace and defence.

"Established shows like AAD play an important role in shaping the future of the industry globally, creating the ideal platform for the cross-pollination of knowledge, innovation and new defence technologies," Wakeford stated.

For the military aircraft expected to participate, there are clearances required at various levels, both by South African authorities and the respective assigning air forces. However, it is believed a Boeing C-17 Globemaster III, Lockheed Martin C-130J Super Hercules and an MQ-9 Reaper will be at AAD 2016.

While several other exciting aircraft types are expected, including possibly a B-1B Lancer; it is likely the bomber would be accompanied by a KC-135 Stratotanker aerial refueller.

The South African Air Force (SAAF) has been without a refuelling capability since 2007, when the B707 tankers were retired. This resulted in the SAAF's Gripen fighters being deployed to the eastern Democratic Republic of Congo (DRC) last year without being able to refuel in flight.



For the past number of years, Lockheed Martin has been proposing, besides its tanker version, a maritime patrol and a stretched C-130J-30 for the SAAF's diverse requirements, ranging from airlift and maritime to VIP transport and tanking, based on a single multi-mission platform.

While South Africa has pioneered unmanned aerial vehicles and continues to invest in this technology, it has been reported that the US would bring a RQ-7 Shadow that was shown at AAD 2014, as well as models of the ScanEagle mini-UAV and the Northrop Grumman X-47B.

The South African National Defence Force (SANDF) itself, being a co-host of AAD, will pull out all stops to impress visitors.

As in past years, the daily flying display involves most SAAF aircraft types, from the Gripen and Hawk jets, to transport aircraft and helicopters, including the Rooivalk attack helicopter, which has shown its mettle in support of UN peace enforcement in Africa.

Besides the Silver Falcons flying their usual impressive aerobatics, the SAAF Museum is expected to bring back the nostalgia of yesteryear's aviation. Some icons like the Tiger Moth, De Havilland Vampire, Dakota DC-3 and Aérospatiale Alouette II and III helicopters, always awe the crowds with their delicate flying manoeuvres.

Industry participation is equally impressive, with local and foreign companies showing their best and latest technologies.

Among the big names, state-owned Denel and privately held Paramount defence groups both view AAD as the ideal showcase for their offerings to the home market and international customers.

The latter might even show its recently announced Mwar, a militarised version of the novel AHRLAC aircraft, while Denel will feature its wide range of missiles and UAVs, in addition to its international joint ventures, as with Tawazun Dynamics of the UAE.

AAD has come a long way from its humble beginnings as a purely South African defence force show.

"We are very fortunate to have an air force base that is as expansive as Waterkloof; this means we are able to accommodate a significant number of exhibitors," said Wakeford.

"The spin-offs from this are multi-tiered: our local industry gets to tacitly benchmark themselves against international best practice and innovation. For our international exhibitors, AAD is the gateway to the largest and fastest growing economy," he concluded.

Marrakech Airshow 2016 was held at the Manera Air Base, just outside the walls of the ancient – and famous – city in April. Marcella Nethersole and Alan Warnes travelled across the Atlas Mountains to report on the event. Pictures by Alan Warnes.

NO TOUR DE FORCE THIS YEAR...

Defence writer Alan Warnes has attended the International Marrakech Air Show (IMAS) over the past decade and gives his personal verdict on this year's event.

Of the five Marrakech air shows to have taken place since the inaugural event in 2008, this was undoubtedly the most disappointing.

That was largely due to the lack of presence from the Royal Moroccan Air Force (RMAF). The static display usually comprises 15 or so RMAF exhibits from right across the inventory. However, this year it was just seven aircraft – an F-16C Block 52, Alpha Jet, C-27J, Bombardier 415, T-6C, CH-47D and an AB205.

These were all relative newcomers except for the Alpha Jet, which had been modified for the 'Al Ghait' rainmaking role, and the AB205, with spray bars attached each side of the cabin, for its 'lutte antiacridienne' anti-locust role.

But what was probably more of a let down was the disappointing turn out of RMAF aircraft in the air display. It amounted to a couple of Pumas flying with flags unfurled underneath, while four F-16Cs made a fly-by, a low formation pass and then a bomb burst before disappearing back to their Ben Guerir base.

The rest of the display comprised aerobatic teams – the RMAF's Marche Verte (Cap 232s), the Italian Air Force's Freccia Tricolori (MB339PANs), the Spanish Air Force's Patrulla



Among the few highlights in the static display was one of three RMAF CH-47Ds delivered last August. From ex-US Army National Guard stocks, they were overhauled by Oregon-based Columbia Helicopters, while the aircrews and technicians were trained at Fort Indiantown Gap, Pennsylvania. The three CH-47Ds have been inducted into Escadron Chinook at Rabat-Sale.

Aguila (Casa 101s) and the United Arab Emirates Air Force & Air Defence (UAEAF&AD) Al Fursan (MB339NATs).

The flying display cried out for something a bit more imaginative – some guts and thunder. On previous occasions there were formation flypasts, illustrating much of what made up the RMAF. According to one senior RMAF officer: "The event wants to rely more on industry

playing their part and so the usual large RMAF presence was withdrawn."

On the positive side, the event is viewed by industry as the 'gateway to the African markets'.

If it continues to attract delegations from countries such as Benin, Burkina Faso, Cameroon, Jordan, Mali, Mauritania, Nigeria, Pakistan and Tunisia, as it did this year, the aerospace industry will continue to attend.



A RMAF F-16C 08-8012 fitted with conformal fuel tanks can operate the Sniper targeting pod and DB-110 reconnaissance system. The aircraft are useful assets in the Saudi-led coalition in Yemen.

F-16C pilots pay tribute to fallen comrade

Personnel around the F-16C would not talk about their on-going operations in the Saudi-led coalition, but they did say they were based at the same facility as other foreign aircraft (Khamis Mushayt).

They also confirmed the name of the pilot killed when F-16C 08-8008 crashed in Saudi Arabia in May last year, as Lt Bahti 'Sonic' Yassine.

Every Friday, all the F-16 pilots wear a 'Sonic' name badge on their flying suits in tribute to their fallen comrade.



LIGHT STRIKE AIRCRAFT FIGHT FOR PROMINENCE

With Morocco's on-going operational requirements in the south-west of the country, three companies used IMAS 2016 to market their light strike aircraft.

Embraer was showing off the A-29 Super Tucano, Air Tractor featured the AT 802, while Hawker Beechcraft displayed its AT-6 Wolverine.

Working in partnership with Sierra Nevada Corporation, Embraer has so far sold 26 Super Tucanos – 20 to Afghanistan and six to Lebanon. The Afghan Air Force pilots are being trained at Moody Air Force Base in Georgia and the aircraft are already being delivered, while the six Lebanese examples should be at the same base by the end of 2016.

Discussing the Super Tucano, Geraldo Gomes, Embraer vice president business development, was clearly having a verbal swipe at Air Tractor when he said: "Our aircraft is a clean sheet design and did not evolve from an agricultural aircraft. The aircraft has five NATO hard points and two internal machine guns, which can be engaged as necessary."

Embraer has now sold the Super Tucano to 13

air forces. It announced the sale of four A-29s to Mali earlier this year and has already delivered four to neighbours Mauritania – two in 2012 and a second pair in 2015, to add to the four ex French Air Force EMB 312 Tucanos delivered in 2010/11.

Meanwhile, Air Tractor was keen to tell of its 30 AT 802s operating in Africa, although they are in the fire-fighting and agricultural arenas, rather than the attack role.

"The AT 802 would be ideal for those African countries that don't have a precision type aircraft and it comes at a fraction of the price of its competitors," said Tom Menker, Air Tractor's business development representative based in Olney, Texas.

There were 24 AT 802 Border Patrol Aircraft delivered to the UAEAF&AD between December 2010 and June 2013. However, they are now being passed on to other countries in the Middle East – Egypt, Jordan and Lebanon.

L3 Wescam recently delivered four intelligence, surveillance, targeting and reconnaissance (ISTAR)-configured AT 802s to the Royal Jordanian Air Force, initially destined for Yemen. However, given the current situation in that country, they were never delivered.



The NorthStar Aviation Bell 407MRH is one option the RMAF could look to as a Gazelle replacement.

RMAF seeks Gazelle replacement

The Royal Moroccan Air Force has launched a programme to replace its ageing fleet of around 24 SA342L Gazelles, which have been operational since 1982.

The aircraft have provided a light support and limited attack capability, playing an active role in operations in the south-west of the country – the region where the Polisario militant group is bidding to claim a homeland for the Salawari people, ousted from the annexed Western Sahara.

Bell Helicopter's Stephen Suttles, vice president Middle East and Africa, believes his company is well positioned to provide a Gazelle replacement: "We are listening to understand what they need. We think we have the right mix and it

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wouldn't be necessary to replace one aircraft with another.

"Working with NorthStar Aviation, we can offer the armed Bell 407MRH, which the UAE Air Force is operating. It can be armed with several offensive options – including the AGM-114 Hellfire, M134 mini-gun, GAU-19 machine gun and Hydra 70 rockets – to meet their needs."

NorthStar takes the 'green' Bell 407 aircraft to its facilities in Melbourne, Florida and integrates systems the customer requires on to the platform before shipping it to the country. The company has an office in Abu Dhabi, too, which is supporting the UAE deal for 30 modified helicopters.

Interestingly, the UAEAF&AD Bell 407MRH in the Marrakech static was seen for the first time publicly, fitted with an infrared suppressor over the engine exhaust.

According to its pilots, it is a new modification, presumably a lesson from infrared surface air missile threats in Yemen, where the helicopter has been playing its part in the Saudi-led coalition fighting rebels there.

Bell's other two options are the AH-1Z Viper and UH-1Y Venom, both boasting an impressive ISTAR capability too. "If they want interoperability with the US and NATO, these two platforms will give Bell an edge in any competition," said Aaron Camele, the company's international military campaign manager.

Bell is also working with NorthStar on an armed Bell 429, which, with two engines and increased maximum take-off weight, could be an even better, if a more expensive, solution.

Neither Airbus Helicopters nor Finmeccanica Helicopters were at the show to provide their insight into what their options could be but, undoubtedly, the EC 725 or AW159 Wildcat would be among them.

France's Aerotech Group exhibited an upgraded SA341F Gazelle at the International Marrakech Air Show in April 2014, which would have catapulted the RMAF's Gazelle fleet into a new era.

The 'Naja' programme, as it is known, could equip the Gazelle with new generation weapons and was witnessed at the event with two Raytheon Griffin laser-guided missiles on one side, while the starboard side saw another option – the TDA 68mm laser guided rocket. A FN Herstal .50 gun, was also exhibited.

While Tunisia and Niger are known to have taken up an upgrade on their Gazelle fleets, and the Iraqi ones were also worked on before delivery, Morocco never bothered. Aerotech did, however, fit a pair of night vision lights under the cabin of some of the RMAF's Gazelles.

"If they want interoperability with the US and NATO, these two platforms will give Bell an edge in any competition."
AARON CAMELE



Busy: Oliver Bergsch sees great prospects for Jet Aviation.

Jet Aviation eyes up North Africa

Jet Aviation Basel has been well established in the business jet industry for 50 years and, with a worldwide reputation, the company came to Marrakech as part of a plan for growth in Africa.

It boasts of being a "one-stop solution", whether customers require maintenance, completions, refurbishments, fixed-base operation (FBO), aircraft management or staffing services, and provides facilities and teams across more than 25 airports throughout the world, with its main centre being in Basel.

It provides a full range of maintenance services for most current models and the majority of out-of-production Airbus, Boeing, Bombardier, Dassault, Embraer and Gulfstream aircraft.

It is also an approved Boeing Business Jets (BBJ) completions centre for both narrow-body and wide-body aircraft, including BBJ1, II, III, B757, B767 and B747.

Last year, it was selected by BBJ to complete the interiors of two Boeing B777 aircraft and was also chosen by an undisclosed client from the Middle East to engineer, manufacture and install a VVIP cabin interior on the world's first Boeing 787-9 Dreamliner.

And, in May, Airbus added Jet Aviation and its

maintenance repair and overhaul (MRO) facilities to its ACJ Service Centre network, allowing for choice and geographical reach for its corporate jet customers and operators around the world.

"I would say that the Middle East is our busiest region," said Oliver Bergsch, vice president sales and customer relations EMEA MRO & FBO.

"We are well established there, as well as in Europe, Asia and the Americas. So now we are turning our eyes to Australia and Africa. While we are almost 50 years old, we are still a growing company looking for new opportunities for new locations – that is why we are at Marrakech. Morocco is definitely at the heart of North Africa."

The company already has several clients in Morocco, including Air Force, as well as some VIP customers. Bergsch said that, one day, the company might well open a centre in Morocco.

"Morocco is not only an attractive entry into African countries but also a very well established, safe and stable country," said Bergsch "I would love to see an increase of this show here in Marrakech as it's a perfect location. It will be great to see it grow in future and we hope to be part of that growth."

SMALL MAY BE BEAUTIFUL FOR AFRICA

Embraer Commercial Aviation chose the show to release its market outlook for Africa, forecasting that the region will take delivery of 240 new jets in the 70 to 130-seat segment over the next 20 years.

"Africans are turning progressively to air travel. As in Asia, economic expansion, a growing urban middle class, continued market liberalisation and regional integration will be the main drivers of air transport demand," said Simon Newitt, vice president, Latin America, Africa & Portugal, Embraer Commercial Aviation. "With right-sized aircraft, such as the E-Jets family, African carriers would be able to offer a better combination of capacity and frequency in core, as well as low to mid-density markets."

According to the Embraer study, there are still ample connectivity opportunities within Africa, although traffic remains concentrated in the largest cities. Of more than 300 of the region's airports operating in 2015, only eight connected 25 or more cities, while 240 airports linked five or less cities.

Some 90% of city pairs have traffic volumes of up to 300 daily passengers, yet the current fleet comprises many large-capacity aircraft – around 70% of the aircraft in the single-aisle jet fleet have more than 130 seats.

Nearly 55% of intra-regional markets do not have direct flights and some 67% of all nonstop markets within the region are served with less than one daily frequency.



The Aventure team making inroads in Morocco.

WHY MOROCCO IS THE NEXT GREAT ADVENTURE FOR AVENTURE

Aventure Aviation is a 24/7 parts supplier for commercial and military aircraft, including Airbus, Boeing, Bombardier and Lockheed C-130/L-100.

The company also provides airframe and engine component repair management services.

While its headquarters is spread over six acres in Georgia, USA, just next to Atlanta Regional Airport, the company also has offices in Riga, Dubai, and Istanbul.

And now it is starting to get its name recognised in Morocco, having this year signed contracts with the Moroccan Air Force, and Royal Air Maroc airlines.

It's a country and region that senior vice president, Amyr Qureshi, is excited about.

"We have been in business for 15 years," said Qureshi. "We started off as a commercial aircraft parts supplies company, as well as providing maintenance, repair and overhaul (MRO) for commercial aircraft. It's only been in the last few years that we decided to venture into the military side, which is the Hercules C130, F16 platforms, and helicopters.

"Today, we are covering all the air forces in the Middle East and North Africa. So, to be able to say we are supporting both the commercial and military sectors here in Morocco, is a great coup."

The company has also appointed a representative, located in Rabat, to take care of all local customer needs.

"Nabila Chebbali is our regional director for Morocco and North Africa," said Qureshi. "It's imperative we have a representative in Morocco

to take care of our customers here and in North Africa generally. As we are growing here and establishing more projects, we will be looking to open an office, probably in Rabat."

Besides supporting spare part demands for narrow and wide-body fleets around the world, the company assists customers operating regional turboprops and commuter twinjets.

It supplies parts to airlines and operators with Bombardier Dash 8 series turboprops and CRJ series twin-jets in their fleets. It also has parts for Learjet, Gulfstream, Hawker Jet, King Air, Cessna Citation and Beech 1900 aircraft.



Qureshi said this list would be attractive for the growing business aviation market in North Africa, and that there were three countries within the region seeing a surge, not just in the military and commercial sectors, but also in business aviation.

"More and more people are flying via corporate jet," said Qureshi. "Besides Morocco, we are also looking to get contracts in Algeria and Tunisia too. North Africa is a hub for the Middle East and Africa really, and most companies are conducting business in these three countries."

He added: "Just look at the increasing turnout of exhibitors to the Marrakech show each year. Everyone here knows this is a region where the aviation industry is growing rapidly, particularly Morocco, as it's geographically perfectly located to serve Africa and the Middle East."



Lazio Torok - long-range tanking.

Up-beat about this special drum

Australian company Turtle-Pac has been in business since 1978 manufacturing auxiliary ferry tanks and air cargo tanks that carry fuel.

Its director, Lazio Torok, said the company is the home of "tough bladder tanks" for aircraft and boats.

"Whether you want to fly around the world, across the ocean, or just want to fly long distances nonstop, our ferry tank installations provide the extra fuel capacity to get you there safely," said Torok.

"We offer custom-made rigid, aluminium, ferry tanks and Turtle-Pac's collapsible ferry tanks – depending on your aircraft and mission. While some installations may call for rigid tanks, most use our collapsible bladders."

The company has a range of aircraft tanks, including the Drum 66, which is a long-range tank that can be used in aircraft such as a Cessna.

"It has a fuel pump and you pump it in to the main tank. People cross the ocean with our tanks, for instance from Australia to California – with the longest leg being 14 hours," said Torok.

Air-Mods is Turtle-Pac's east coast aviation installation facility and Torok said it is well-equipped to handle the most sophisticated installations, from light singles to twin turboprops.

However, the company was in Marrakech introducing its latest tank, the Drop Drum 205.

"The Drop Drum is the world's toughest collapsible tank and nobody else is using it," said Torok. "What makes it special is that it can be dropped from an aircraft without a parachute. It makes a simple way to resupply troops or humanitarian teams in countries like Iraq and South Sudan, with either fuel or water, without them having to rely on an air force using Hercules and turning it into a huge operation.

"With the Drop Drum, you can use a small aircraft, such as Cessna 208 or a DHC-6 Twin Otter, and just push the drum out of the aircraft. There is no training required, you just push it within five metres and it will bounce and roll out."

Rwanda the go-to place for aviation summit

Rwanda is rapidly becoming recognised as major convention destination for Africa and in February will be the place for the aviation industry to go with the second Aviation Africa summit and exhibition taking place in Kigali, the country's capital.

"Rwanda has been working on developing its conference facilities and has made great moves forward with a relaxation of restrictions, allowing all Africans a visa on arrival, at the same time that other African countries are making it harder to do business" said Mark Brown, head of Times Aerospace, the show organiser.

"The country hosted the African Union meeting in June and a new national convention centre had to be finished by then, along with a host of improvements at the international airport. There are many fantastic hotels and these developments give us the capability to expand the show as a biennial event in Kigali."

Brown said that the event would build on the success of the first Aviation Africa event which had been held in Dubai. With the Rwandan Government stepping in as a partner, and support from the local aviation industry as well as African Airlines Association (AFRAA), the African Business Aviation Association (AfBAA), and the International Air Transport Association (IATA) with speakers and other commitments, he is expecting the exhibition to be a sell out.

"The venue is spectacular. Within days of announcing the dates – February 22-23 next year – we had commitments from sponsors and exhibitors. This event covers the whole of the aerospace market across Africa. If it flies, than we are on it," he said.

Rwanda's Department of Civil Aviation, (RDCA), national carrier RwandAir and the ministries of infrastructure, responsible for transport and airports, and defence, will be inviting delegations from across the continent to participate.

African Aerospace editor-in-chief, Alan Peaford, will chair the summit.

"For many years, Africa has been noted as a region of great potential – a growth prospect that could match that of the Asia Pacific powerhouse," he said. "Remember this is a continent larger than the United States, India, China and western Europe combined, with a population of more than a billion people across 54 countries spanning 20% of the world's land mass. Aviation is a key to the future for new Africa.

"We will be looking at ways companies, both from within Africa and outside, can come together to meet the demands of the governments and the regulators."

Aviation is at the heart of



Kigali convention centre.
PICTURE: AKAGERA AVIATION

Africa's new positivity. "And at the centre of that beating heart is Rwanda," Peaford said. "The country's stable government now enjoys the sixth fastest growing economy on the continent. Built on a platform of zero corruption and open government, the country has developed into a safe, clean business environment and with a publicly acknowledged determination to build an aviation support industry to further fuel the growth."

Across sub-Saharan Africa, 40 new airport projects were announced in 2014, with many of those now past the masterplan stage and preparing for the procurement process. Ethiopia, Rwanda, Uganda, Tanzania and Kenya are among those with ambitious plans and the Aviation Africa summit will host discussions about development of smart airports, of enhancing security and developing passenger experience improvements.

SOMMAIRE

LE RWANDA, HAUT LIEU DES RENCONTRES AÉRONAUTIQUES

Le Rwanda est de plus en plus reconnu pour ses capacités d'accueillir des rencontres internationales de haut niveau en Afrique. L'industrie aéronautique se donne rendez-vous en février à Kigali, la capitale, pour le deuxième sommet et exposition « Aviation Africa ».

L'événement a été lancé à Dubai l'année dernière et les organisateurs cherchaient un emplacement doté d'installations appropriées et facilement accessible aux visiteurs africains.

« Le Rwanda a non seulement investi dans de nouvelles infrastructures mais a également fait des efforts considérables en assouplissant les restrictions de visas permettant ainsi à tous les Africains d'y accéder », explique Mark Brown, le directeur de Times Aerospace, l'organisateur du salon. Fort du soutien du gouvernement rwandais, de l'AFRAA, de l'AFBAA et de l'IATA, son succès sera assuré comme celui de Dubai.

« Le sommet couvrira l'ensemble du marché de

l'aéronautique à travers l'Afrique. S'il vole, nous serons à bord. » Il sera présidé par Alan Peaford, rédacteur en chef d'African Aerospace.

« L'Afrique est considérée comme un continent avec d'énormes potentiels depuis plusieurs années. Ses perspectives de croissance pourraient correspondre à celles de la région Asie-Pacifique [...]. L'aviation est une clé majeure pour l'avenir de la nouvelle Afrique », affirme-t-il.

Les discussions porteront sur la manière dont les entreprises à l'intérieur et hors du continent peuvent collaborer pour répondre aux besoins des gouvernements et des organismes de réglementation.

Avec un gouvernement stable et ouvert, le Rwanda, qui occupe la sixième position sur l'échelle de la croissance économique en Afrique, offre un environnement sain et sûr pour l'implantation d'une industrie aéronautique. Cette dernière « alimentera davantage le développement économique ».



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Philip McCarthy

Marcella Nethersole speaks to Inflight Dublin's account manager.

1

■ Can you give me a little background on Inflight Dublin?

Inflight Dublin (IFD) has been in business for more than 30 years but, in the last three, we have doubled in size in terms of sales, employees and office space.

Our headquarters are in south Dublin, Ireland (our neighbours include Paddy Power, Ericsson, Nokia, Leinster Rugby and University College Dublin) but we have staff located around the world.

Last year we opened our Californian office, which was an exciting expansion and gives us greater access to Hollywood studios and hardware integrators.

2

■ What technologies and services do you offer airlines?

We offer the latest technologies to our airlines in term of Wi-Fi streaming, mobile apps and web development (such as microsites).

On March 1, we announced a partnership with Royal Air Maroc (RAM). Under the partnership, IFD will help RAM to double the amount of content that it offers to its passengers. It will also create a bespoke IFE microsite that will be available in three languages, which will showcase the large variety of content and other services that will be available.

We have a very talented design team, which creates motion graphics, graphical user interface (GUI) designs, as well as magazines, including the new 44-page Tunisair publication, for which we designed and wrote articles.

3

■ Who do your African customers include and do you see a variety of requests?

Our African clients are Ethiopian Airlines, EgyptAir, Kenya Airways, Royal Air Maroc, South African Airways, Air Mauritius, and Tunisair.

Each airline is individual, with its own goals and visions, and we work with them to make sure that, first and foremost, their passengers are delighted and also that the aims of the brand are realised.

4

■ Is Africa a growing market for you?

Africa is a dynamic market in its growth stage with lots of potential and opportunity. IFD is glad to be part of it.

One of Inflight Dublin's key strengths is our ability to work with any budget to provide high-quality and cost-effective creative options for clients.



“ One of Inflight Dublin's key strengths is our ability to work with any budget to provide high-quality and cost-effective creative options for clients. ”

5

■ How do you see IFE evolving in, say, the next five years?

We see in-flight entertainment increasing rather than decreasing, especially on short and medium-haul carriers that do not currently have it.

Wi-Fi streaming solutions will become omnipresent due to the low cost of installation, easy maintenance and overall benefit to the passenger experience.

Inflight Dublin anticipated this trend and so we developed our own Wi-Fi streaming solution, which considers the whole passenger journey path, not only the 'in-flight' part. Our solution entertains passengers with the latest movies and TV shows, and also allows them to research their destination, book taxis, hotels and event tickets from their own devices.

6

■ What does a typical day involve for you as account managers?

On a typical day, we check-in with all of our clients to make sure that everything is running smoothly and speak with them about any new ventures they are launching. We then speak with the Inflight Dublin team to make sure everything is also running smoothly internally.

The rest of the day is usually spent planning new ideas for clients and reading about new developments in the world of in-flight entertainment.

Growth = TOC



Aerosud Aviation is a mature TOC Company. The implementation of TOC across all areas have yielded exponential growth. We drive to move today's constraints into tomorrow's business growth.

Nadcap



Aerosud is accredited for the following commodities

- Chemical processing and paint (merit)
- Heat treatment (merit)
- Tig welding (merit)
- Composites (merit 2017)

Technology



Aerosud actively drives R&D in the following areas

- Niche process development
- Simulation and industrialisation
- CFRP hybrid technologies
- Titanium hybrid technologies

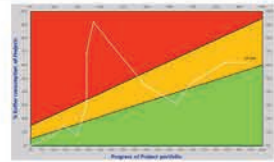
PARTNERING FOR SUCCESS

People



Our people are the most valuable assets that we have. We derive our value from them and align the goals of the company with the goals of the individual.

CCPM



Aerosud uses CCPM to plan new projects and monitor evolution and industrialisation. Facility upgrades and business system improvements are also managed using this methodology.

CAV



Supplier park development

- Aero-mechanical manufacturing and logistics cluster
- Focused on tiered Supply chain development
- Synergistic colocation of niche technology based companies

Aerosud Aviation is focused on establishing resources and implementing the soundest leadership across all levels to achieve all company goals such as maintaining 99% due date performance.

An integrated development and manufacturing methodology resulted in Aerosud being recognised as a leading smart supplier. Fully integrated theory of constraints (TOC) and critical chain project management (CCPM) methodologies resulted in exponential growth. Long term, new supplier and sub-tier relationships are being expanded to position the South African aerostructures footprint for growth through "partnering for success" philosophy.

www.aerosud.co.za

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