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GOES WHERE  
NO WOMAN HAS  
GONE BEFORE**

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## Einstein's theory should be relatively simple for Africa

**A**lbert Einstein, a far wiser man than me, is credited with saying: "Insanity is doing the same thing over and over again and expecting different results." It is a saying that is well worth remembering when we look at aviation in Africa.

The annual assembly of the African Airlines Association (AFRAA), held beside the Indian Ocean at a Mauritian resort, seemed more upbeat than in recent years. Apparently some 40 airline C-suite leaders were there, many for the first time. And the numbers will undoubtedly be boosted next year when the latest batch of start-ups join the ranks.

Probably the most prestigious of these will be the new airline from Ghana.

The country's aviation minister, Joseph Kofi Adda, announcing the purchase of a brace of Boeing Dreamliners to kick-start the new venture until private shareholders could plan their own strategy, name and routes for the carrier, was adamant that the airline mustn't be seen as a national carrier in a government-managed sense but, instead, would be privately managed.

Of course, we are all conscious that west Africa is lacking a credible flagship carrier, yet Air Senegal, Asky, Air Cote d'Ivoire, and Africa World Airlines are all serving their local markets well, while Nigeria's Air Peace is steadily adding to its fleet. Maybe Ghana may have the magic formula that reaps the rewards.



But my old friend and colleague, Brendan Sobie, addressing the AFRAA delegates, sent a well-tested, but no less chilling for that, analysis of the African airline world.

"Virtually all African airlines lack scale, making it difficult to compete and become profitable," he said. "African airlines need to rethink their fleets and embrace partnerships or consolidation in order for profitability and connectivity within Africa to improve."

Ethiopian Airlines has proved that and, according to Sobie's figures, accounts for a third of all intra-Africa flights. More than 50 African airlines compete

but only 20 have at least 10 daily flights. Only 10 foreign airlines compete but account for less than 5%.

It is no surprise, then, that the clear message from AFRAA and from its IATA partners was clear. Cooperation and collaboration will see survival.

And governments must spend less time trying to manage airlines and concentrate, instead, on a more vital agenda, such as reducing charges and taxation on aviation, fuel and visas.

Do that and they will discover that their intervention in these areas will increase growth and their national economies far more than the often vanity act of throwing money at a flag-carrier.

**Alan Peaford,**  
Editor-in-Chief

**COVER: South African Airways (SAA) acting CEO Zukisa (Zuks) Ramasia. PICTURE: BILLYPIX.**

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**RAPPORT EN FRANÇAIS**

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## AHRLAC to fly again

The successful adoption of a business rescue plan will see the AHRLAC aircraft flying again soon. This was announced by the Paramount Group after the manufacturer, Aerospace Development Corporation (ADC), had been placed into business rescue in February 2019.

According to Paramount Group, the business rescue plan will secure the future of the AHRLAC aircraft and its

employees. Importantly, manufacturing, sales and marketing of the aircraft to customers around the world are set to resume.

"Paramount Group has already injected new capital in the form of post-commencement funding and will inject significant further capital into the business over the coming months," Paramount Group said in a statement.

## Ground breaking assembly

The inaugural general assembly of west African handling companies has been held in Lomé, Togo.

In his welcome address, Mahrouf Ayeva, the director general of ST Handling, Togo's only handling company, said the association would help the companies jointly address their peculiar challenges.

Handling companies from Togo, Benin Republic, Mali, Burkina Faso, Senegal and Cote d'Ivoire participated.

## Engine for ALS

Rolls-Royce and ALS have signed an agreement for engine maintenance, repair and overhaul services for the Kenyan airline's fleet of 10 AE3007-powered Embraer ERJ135 and ERJ145 aircraft.

The agreement, which is for five years, will see Rolls-Royce provide the Nairobi-based specialist operator with its flagship TotalCare long-term aftercare service solution, which is designed to maximise aircraft availability.

ALS CEO, Shakeel Khan, said: "We are proud to be a creative airline and place great importance on

partnering with organisations that share our vision and ambitions."

## Long-term leases

EgyptAir and AerCap have executed long-term operating leases for two Boeing 787-9s.

The aircraft are from AerCap's order book with Boeing and the first unit is scheduled to deliver in 2021, with the second following a year later.

Both sides also signed documents converting seven leases for Airbus A320neos into leases for seven Airbus A321neos.

## Senegal expansion

Air Senegal has extended its general representative agreement (GSA) with APG in Ghana, Morocco and Nigeria.

"Air Senegal is certainly very young but as our national airline it has a great ambition and a clear vision," said Assane Sambe, commercial and marketing director.

"We are on a fast track and growing day by day, expanding not only our fleet, but also our number of destinations. This expansion confirms Air Senegal's position as one of the leading airlines in west Africa."



**Congratulations: AFRAA secretary general, Abderahmane Berthé, presents Sebastian Mikosz with the trophy.**

## Kenya Airways named AFRAA airline of the year

Kenya Airways (KQ) received the prestigious African Airlines Association (AFRAA) airline of the year award.

The award recognised KQ for its contribution to intra-Africa connectivity by opening up the highest number of routes within AFRAA's membership in 2018.

"Kenya Airways continues to offer the best connectivity in Africa, with 44 destinations in the continent, while providing the continent with unmatched connectivity to the rest of the world through our 55 destinations worldwide," said CEO, Sebastian Mikosz.

He also noted that improved connectivity within the continent has led to increased economic and social development, promoting trade, tourism, and exchange of cultural and social ideas.

■ AFRAA report, page 60.

## Boeing's top changes

Boeing has named chairman, David Calhoun, as chief executive officer and president, effective from January 13, 2020. In addition, Lawrence Kellner will become non-executive chairman of the board. The company also announced that Dennis Muilenburg had resigned from his positions as CEO and board director.

## Burkina Faso airlifter

Burkina Faso's Ministry of Defence has placed a firm order for an Airbus C295 military airlifter. The C295 is adapted to perform in the harsh sub-Saharan Africa operating environment and should be a perfect match for the climatic conditions of Burkina Faso.

## It's a TAL order

TAL Aviation has signed an agreement with Kenya Airways to provide cargo and logistics services for the airline. Kenya Airways has also appointed TAL as its general sales agent (GSA) for its passenger services in France. TAL's French team will be providing a full range of services on behalf of the airline, as well as supporting its long-haul Paris route.

## \$1.3bn Rwanda airport deal agreed

The deal between Qatar Airways and Rwanda for the new \$1.3 billion international airport near Kigali has been officially signed.

There has been a general awareness of the Gulf state's interest in the fast-growing Rwandan market since a state visit to Doha by Rwanda's President Paul Kagame and a return trip by Qatar's ruler, Sheikh Tamim Bin Hamad Al Thani, in April

In December, that was realised when Sheikh Tamim returned to Kigali for the international anti-corruption excellence (ACE) awards that bear his name, and took the opportunity to join President Kagame and sign the agreements, which creates a joint venture to build, own and operate a new international airport in the Bugesara district, near to Rwanda's capital.

The new airport will have a capacity of seven million passengers in phase one, increasing to 14 million in the second phase, which should be complete by 2032.

## Comair changes at the top

Comair Limited, a South African-based group that operates scheduled airline services on domestic routes as a British Airways franchisee, and as a low-cost carrier under its own kulula.com brand, has announced the appointment of Wrenelle Stander as group CEO.

Glenn Orsmond, previously joint-CEO, has been appointed as the CEO of Comair's airline division.

The moves form part of the ongoing group restructuring.

Group chairman, Lindsay Ralphs, said: "The joint-CEO structure, introduced a few months back, has been discontinued and these



## Leonardo gets Absolute power

Leonardo has signed a distributorship agreement with Absolute Aviation Group in South Africa for the civil and commercial market.

The agreement, which has the potential to be extended to other southern African nations, includes the AW119Kx single-engine, the AW109 GrandNew and AW109 Trekker light twins, the AW169 light intermediate and the AW139 intermediate twin types.

Absolute Aviation Group also signed a contract for an AW119Kx and an AW109 Trekker, with a commitment to purchase further units from the various models in the next couple of years. Deliveries of the two aircraft are expected in 2020.



Done deal: Incacio Costa, aviation manager, Sonangol (left) and Justin Walker in London.

PICTURE: AIR BP

## Air BP signs tech services deal with Sonangol of Angola

Air BP has signed a technical services agreement with Sonangol, the state-owned oil company in Angola.

Air BP will support Sonangol in assuring its operations reach international standards, providing advice on product quality, operations, health, safety, security and environment (HSSE) and engineering.

Training programmes will be delivered in Portuguese to build knowledge and competence locally, as well as bringing Air BP's expertise to Sonangol's airport operations and related engineering projects.

Justin Walker, technical services director, Air BP, said: "The strong relationship BP Angola has developed with Sonangol and the Angolan Government over the past decades, coupled with Air BP's 90-plus years of aircraft refuelling experience, is a winning combination."

appointments should ensure better performance and efficiency in a very competitive airline industry."

Comair Limited's main base is OR Tambo International Airport, Johannesburg. It also has key cities at Cape Town International Airport and King Shaka International Airport.

## CEO is a winner

Ethiopian Airlines Group CEO, Tewolde GebreMariam, was recognised as 'airline executive of the year' at the annual global aviation awards for excellence organised by the Centre for Aviation (CAPA) in December.

He won the title for his individual influence on the aviation industry, demonstrating outstanding strategic thinking and innovative direction for the growth of Ethiopian Airlines and the aviation industry at large.

## L3Harris signs with RwandAir

L3Harris Technologies has signed an agreement with RwandAir to support the airline's pilot training plans and growth strategy.

The RwandAir training will start with A330 simulator time on L3Harris'

latest RealitySeven full-flight simulator (FFS) at its new London Training Centre, which opened in July last year.

Silver Munyaneza, deputy CEO in charge of operations, RwandAir, said: "We are impressed with the L3Harris centre's technologically advanced devices and modern training environment. We believe it is the best facility to support our pilot training operations."

## Kenya selects GAL

Kenya's Ministry of Defence has selected Global Aerospace Logistics (GAL) – part of the new Abu Dhabi-based Edge Group – to provide maintenance, repair and overhaul (MRO) services to the Kenya Air Force.

The framework agreement for logistics and maintenance involves the provision of spares, logistics support, MRO and other aviation-related requirements to the Kenya Air Force fleet.

Tareq Abdul Raheem Al Hosani, chairman of GAL, said: "This contract marks the start of a long-term relationship that will see GAL play a critical role in Kenya Air Force's primary mission of securing Kenyan airspace."



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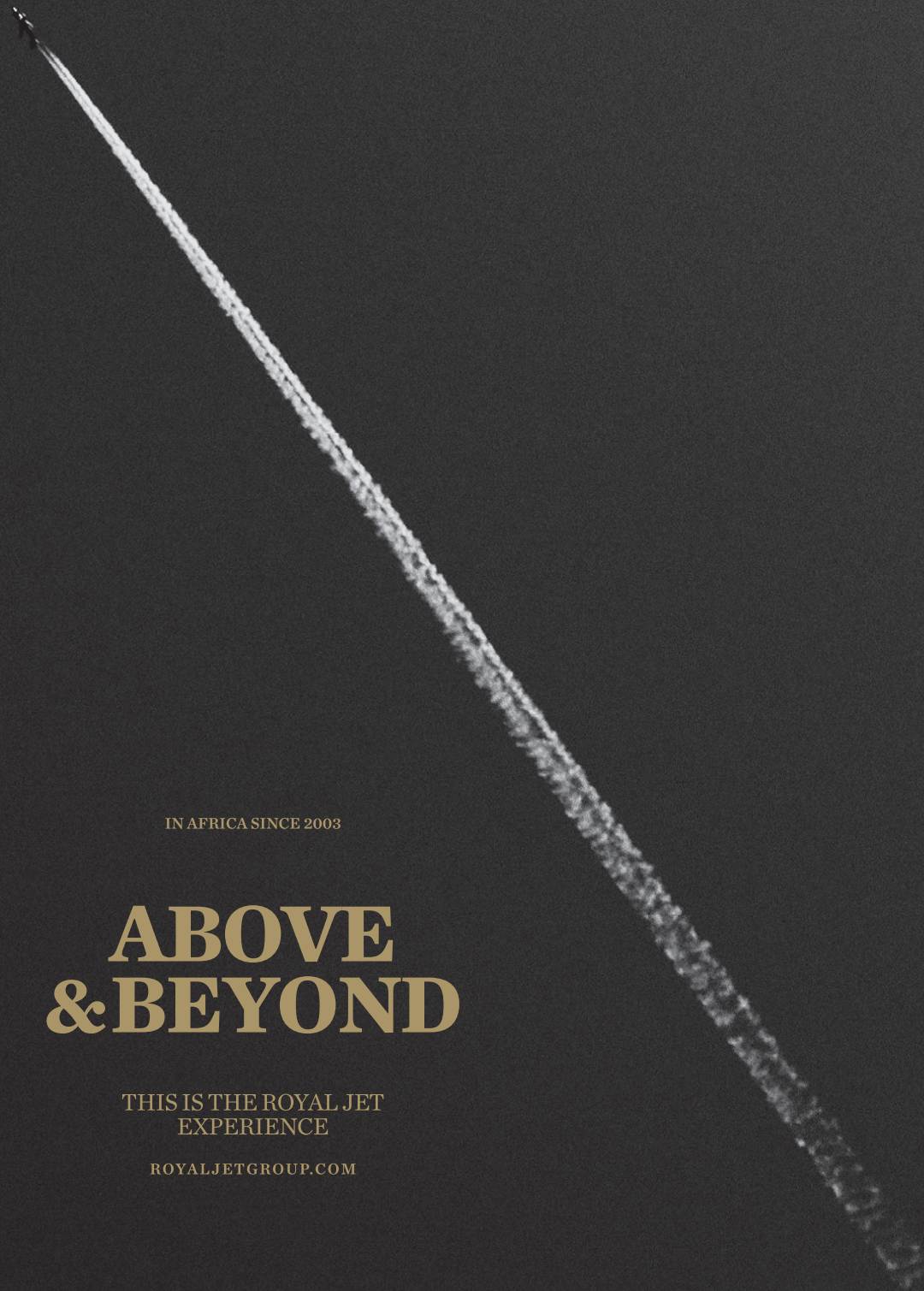
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## Gulfstream's G500 sales taking off

Gulfstream Aerospace has delivered more than 25 Gulfstream G500 aircraft to customers just over a year after the aircraft entered service.

"When the first all-new G500 was delivered in September 2018, we knew customers were receiving a mature aircraft backed by Gulfstream's record of delivering on its promises," said Mark Burns, president, Gulfstream.

"Thanks to the research and development behind the G500, one of the most rigorous and robust flight-test regimens we've ever undertaken, and Gulfstream's advanced manufacturing, we are getting these amazing aircraft to customers with proven performance capabilities."

The G500 can fly 5,200nm (9,630km) at Mach 0.85 and 4,400nm (8,149km) at Mach 0.90. Its maximum operating speed is Mach 0.925.

## Congo Airways signs for E175 jets

Embraer and Congo Airways have agreed a firm order for two E175 aircraft, with purchase rights for a further two. The deal has a total value of \$194.4 million at current list prices, with all purchase rights exercised.

Congo Airways CEO,

## A330neos kick-start Air Senegal's expansion plan

Senegalese national airline, Air Senegal, has taken delivery of its second A330neo in Toulouse. According to CEO, Ibrahima Mane, this "efficient tool" will help the airline embark on a new phase of its development aimed at transforming Dakar's new Blaise Diagne International Airport into a hub. The airport will have a capacity for 10 million passengers by 2035 to sustain the momentum gained by the airline.

The airline was planning to add new routes to Marseille and Barcelona, operated by its two A330neos, as *African Aerospace* was going to press.

New destinations are also scheduled in Africa (Lagos and Abuja in Nigeria, Accra in Ghana, Nouakchott in Mauritania, and Casablanca in Morocco). London, Geneva and the US will be added later this year.

■ African carriers stun the Dubai Airshow, page 58.



Desire Bantu, said: "These new jets will replace our current turboprop offering and allow us to serve routes both within the Democratic Republic of Congo, and regionally to west, central, and southern Africa, from our hub in Kinshasa.

"We will now have the flexibility and the right sized aircraft to serve our market, which is growing so rapidly an additional order may be required, for which the E2 is a particularly compelling option."

## Handling station

VIPAero Angola has officially opened its executive handling station in Luanda. The company was granted a handling licence by INAVIC, the Angolan civil aviation authority, on September 26, 2019.

A representative said: "It was only natural for

VIPAero to open a fixed-base operation in Luanda. We believe this will be the perfect platform to continue delivering services to our trusted customers at the highest standard of the industry."

## School approval

The Air Austral Training School has officially received approval from the French airworthiness regulator (DGAC) for its practical examination of the cabin crew certificate.

Nearly 200 young people have followed the training since the launch of the company's training institute. Until now, they had to go to France for the practical part of their examination at Les Guyards Center, with which Air Austral had established a partnership. From now on, this examination will take place in Reunion Island at the premises of Air Austral.

## Domestic first

South African Airways (SAA) has operated an Airbus A350-900 aircraft for the first time commercially in the domestic market.

The aircraft departed from Johannesburg to Cape Town, operating as flight SA323, and returned as flight SA336. The aircraft is one of four new Airbus A350-900 jets in SAA's fleet.

## Jasmin lands AOC

New private Tunisian airline, Jasmin Airways, has obtained its air operator's certificate (AOC) from the national civil aviation authority. Jasmin Airways will operate mainly from Enfidha-Hammamet International Airport but also from Djerba-Zarzis Airport with two Embraer ERJ 170 of 76 seats. The company has recently been renting its two aircraft to Tunisair Express.

They are flying from Tunis Carthage Airport.

## Dream delivery

Ethiopian Airlines and Boeing got together to deliver much-needed aid supplies to organisations across Ethiopia.

The airline took delivery of a new 787 Dreamliner from North Charleston, South Carolina in December and loaded the jet with 34,000lbs of books and 5,800lbs of school supplies, clothing and medical supplies for the flight home to Addis Ababa.

## Tonnes of relief

UPS, in collaboration with UNHCR, has delivered close to 100 tonnes of relief items to bring critical supplies to victims of the recent flooding in Somalia, which has affected half a million people and uprooted 400,000 from homes.

## Tunisair Express boosts regional fleet with first ATR 72-600

ATR delivered the first of three ATR 72-600 aircraft to Tunisair Express in November. The Tunisian airline will use these aircraft to renew its regional fleet, providing passengers with essential connectivity, both domestically and internationally.

The latest generation ATR 72-600 burns 40% less fuel and emits 40% less CO2 compared to a similarly sized regional jet.

Tunisair Express director general, Yosr Chouari, said: "We are looking forward to introducing this new ATR aircraft with the latest comfort and technology to our passengers, with this first delivery marking an important step in our fleet renewal. Regional aviation provides essential connectivity for Tunisia and the unbeatable economics of the ATR 72-600, together with the best cabin, make it perfect for both our domestic and international operations."



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*Over the past 27 years, Zukisa (Zuks) Ramasia has seen many South African Airways (SAA) CEOs come and go, but she never expected to hold the role herself. She joined the airline as cabin crew and worked her way through the ranks to become acting CEO. After being encouraged to aim high, Ramasia tells **Victoria Moores** she is facing the greatest challenge of her career – readying crisis-hit SAA for its next crucial chapter under someone else’s leadership.*

“I was going to be a lecturer,” recalls Zukis Ramasia. With a huge smile and infectious energy, she goes on to tell the tale of how she got distracted from her studies and – 27 years later – found herself leading South Africa’s national carrier.

Ramasia was studying for her honours degree when SAA came to recruit flight attendants. “These people are distracting me,” she thought at the time, but then went for the interview anyway.

She got the job. Five years later, she was a crew safety trainer, before becoming an operations manager, handling cabin crew rostering. Then she got a place on a 24-month senior-management accelerator programme, with stints in various departments across the airline. After just 18 months, she was offered a job in finance, but her operations boss had other ideas. She picked operations and became senior manager for crew movements.

Less than two years on, the head of the operations control centre (OCC) resigned. He said: “I’m telling you, apply for this position.” This was an executive-level, head of department role that was usually held by ex-military personnel, or pilots – never a woman.

Ramasia was up against candidates with 20 years’ senior management experience. “You must know everything at any given time,” she said.

She applied and was promoted to oversee SAA’s air crew and fleet worldwide.

With a wry smile, Ramasia confessed that she spent the whole of the first year on edge, with her stomach churning. “I mustn’t break the airline,” was her mantra. “In the name of women, I mustn’t break the airline.”

Ramasia held that role, as SAA head of operations control, from 2005 to 2012. Her focus was on-time

Continued  
on Page 14



“Historically, pilots were doing this job. If not a pilot, a man. I wanted to show women that it can be done – and it must be done in a way that doesn’t change your personality by trying to be a man. I never wanted that. I want to be myself.”

ZUKIS RAMASIA

# WONDER WOMAN

CONTINUED FROM PAGE 13

performance – she loved this clear and instant performance metric. “It went so well. We registered the best on-time performance in the world.”

This role tapped into Ramasia’s people-focused college studies – her specialisms were human resources development, psychology and teaching, before she was “distracted” into aviation. “I’m not the type to manage by sitting at a desk. I’m with the people.”

A key pillar of her management style is to teach and encourage people to take personal ownership. “I listen a lot. If I don’t take an idea, I give a reason. I make it easy to come and talk to me about the things that are not working. The people actually doing the work know exactly how to fix the shortcomings,” she said.

“I always reminded them, ‘It’s your operation, own it. This is your airline.’ As long as you see it as work, the commitment is less. Take it as an extension of your personality, or your life, and you will see it becomes better.”

Ramasia’s own path took another turn when she was promoted to SAA general manager operations in 2012. “I like those challenges that make my stomach churn – I don’t sleep, I become restless – I like that,” she said, still grinning.

“Again, historically, pilots were doing this job. If not a pilot, a man. I wanted to show women that it can be done – and it must be done in a way that doesn’t change your personality by trying to be a man. I never wanted that. I want to be myself.”



Just as Ramasia received strong encouragement throughout her career, she is keen to mentor others into management roles, particularly women.

“When somebody wants to talk, even if I don’t have time, I say ‘come after hours. If you want to talk to me and you’re serious, let’s have a decent conversation.’ I always say to women, as you climb the ladder of success, you must always pick up at least another two woman to come with you. It gives me satisfaction to share my experience with other women, so they know it’s possible.”

As general manager operations, Ramasia oversaw SAA’s airline and airport activities worldwide, as well as crewing, operations control, quality audits, technical standards, safety and security.

“I am very content with running operations, I love it,” she said. “I’m the kind of person who just wants things to be done and see the results. I rectify bottlenecks quickly.”

Seven years on, Ramasia’s stomach had another wake-up call. SAA CEO, Vuyani Jarana, suddenly – and very publicly – resigned in mid-2019, voicing grievances about the government’s handling of the state-owned airline.

Very few people had the experience needed to step in because SAA had been through a revolving door of CEOs and the commercial department – which is a natural source of

**Plenty to ponder: Bringing in new aircraft also has knock-on implications for the existing fleet.**



leadership succession – was among the worst affected. Meanwhile, operations had remained relatively stable.

“I’ve never actually applied for a CEO position. I’ve always thought I’m a supporter of the CEO,” said Ramasia. “I think this was the third time I’d been asked to act as CEO. The only reason I agreed was because I could see that the organisation was really hollowed. Most people were in acting roles and in commercial, which holds the company together, there was no leadership there. I felt I had a responsibility to step in.”

On June 10, 2019, Ramasia became acting CEO. “Vuyani Jarana’s resignation was instant. They just wanted to plug in someone who already knows what to do. I know every division and I know who to go to. It is hard work, but it was a smooth transition and that’s where I am.”

Ramasia’s latest challenge was objectively stomach-churning. Just a few months after she became acting CEO, tensions between the staff, management and government escalated to crisis level.

Despite the airline’s critical financial situation, the unions were calling for pay increases – and a cabin crew and technicians’ strike left SAA virtually grounded for a number of days in November. At the time, Ramasia described the carrier’s financial position as “precarious” and cautioned that continued walkouts would risk “fatal damage” to the airline.

SAA had announced plans to cut 944 jobs, nearly a fifth of its 5,149 staff globally. The cuts were to be achieved through voluntary redundancies, early retirements and secondments to other airlines, where possible.

“It’s painful, but sometimes you need cut a limb to save the body,” Ramasia said.

Meanwhile, the airline’s financial situation had become a political hot potato, with the government refusing to plough in further funds.

“Over the last three years, the government has provided more than R20.5 billion (\$1.4 billion)

of fiscal support to SAA. No further financial resources can be advanced to the carrier,” public enterprises minister, Pravin Gordhan, said on November 19. “The government is facing severe fiscal constraints. Even if there were funds available, there is no legal mechanism to provide funding to SAA in the current year. The funds that government has committed to provide over the next three years have been earmarked for the repayment of SAA’s outstanding debt.”

Ramasia has seen a string of CEOs battling to turn around SAA’s fortunes. She believes SAA’s structural weaknesses go right back to its roots and that this, in turn, has hampered the airline’s ability to flourish.

“The problem with SAA has always been about liquidity and financials,” she said. “It was never capitalised properly.”



She acknowledges that “the shareholder has come to the party a lot”, but the financial injections have been fixing symptoms, rather than the root illness.

SAA is weighed down with high-interest historical debts, which have swallowed a huge amount of government money. Debt management is also a drain on internal resources, because it takes up time, energy and capital that could otherwise be redirected into the airline’s turnaround.

With government patience and financial resources wearing thin, SAA’s management is under pressure to create a self-sustaining operation, but Ramasia believes that the solution is within reach.

In 2013, SAA developed an internal long-term turnaround strategy (LTTS), which has since been verified by four external consultancy firms. Ramasia believes the fundamentals of this “very good strategy” remain valid.

“The problem became that revolving door,” she





said. “When you start to see the needle [of change] moving, the person moves on and when you bring in another person, it creates some instability. There is nothing wrong with the strategy – it’s everything else, it’s implementation basically. Continuity makes a difference.”

This lack of continuity has also taken a serious toll on SAA’s staff. “People are fatigued with change. Sometimes they just want to talk,” she said. “I want to change the culture from fear to ownership.”

Ramasia meets with the unions each month to talk through details of the turnaround plan. “It is not a new strategy,” she said. “The difference is we need to accelerate implementing the same strategy.”



Another challenge has been slow decision-making, leading to the creation of a board implementation committee. This group meets every Wednesday to discuss decisions, which are then raised with the government – as shareholder – the following day during an hour-long call.

SAA has been also rebuilding its senior management, appointing new leaders for the commercial, network-planning and technical functions, as well as new chief information and group corporate officers.

Hiring back Mango CEO, Nico Bezuidenhout, from African low-cost carrier (LCC) Fastjet was another strategic step for SAA. Bezuidenhout is a company veteran, who left to join Fastjet in 2016. He helped develop SAA’s original LTTS in 2013 and, later, stepped in as SAA acting CEO to get the plan back on track.

“Our operations need to be able to carry themselves. The main thing is we need to increase revenue. We will look at all our routes, making sure the network is optimised. Everyone must look at costs,” said Ramasia.

“Each and every general manager needs to tell

## SAA takes delivery of first of four A350-900s

**SAA took delivery of the first of four new Airbus A350-900s in November.**

**“The introduction of the A350s offers a new beginning for the airline, will contribute its operational efficiencies, and get SAA back on track,” said acting CEO Zuks Ramasia.**

**“It is an important step-change as we continue to make progress to transform our business and return the airline to financial sustainability in the shortest time possible.”**

**The aircraft will operate on one of SAA’s ultra-long-haul routes between Johannesburg and New York’s John F Kennedy International Airport (JFK), replacing the Airbus A340-600 on this route.**

us what they will do to cut costs by 20%. Organisational design is on the table. That is unavoidable. We need to redesign our organisation so that it talks to our number of aircraft and number of staff. Productivity must go up.”

In December, SAA was facing calls from the government and the Solidarity union to enter voluntary business rescue. “This is the only viable route open to the government to avoid an uncontrolled implosion of the national airline... and prevent liquidation applications by any of SAA’s creditors,” South African President, Cyril Ramaphosa, said in a letter to the government on December 4.

A day later, SAA announced that its board had adopted a resolution to place the company into business rescue “at the earliest opportunity”.

The board statement continued: “SAA understands that this decision presents many challenges and uncertainties for its staff. The company will engage in targeted communication and support for all employee groups at this difficult time.”

The board said it would endeavour to operate a new provisional timetable and would also announce the appointment of new business practitioners. It was keen to point out that services operated by its subsidiary airline, Mango, would continue as usual and as scheduled.

One measure that has previously been tabled is closer cooperation between the various state-owned South African airlines. SAA, regional airline SA Express, and LCC Mango, all share a common government shareholder, but they remain separate companies. Potential synergies are now being explored.

The problem is that each CEO has their own vested interest in their airline, so they have turned to Airbus, Boeing and Bombardier to give an airline-agnostic view on fleet and network strategy across the three carriers.

“These people want us to win,” Ramasia said. “Everything is on the table. We are open-minded.”



As a stop-gap, SAA was due to take four Airbus A350-900s on 36-month lease by the end of 2019. SAA ultimately plans to replace all eight of its A340s, swapping them one-for-one with A350s. This means four more A350s are still needed to complete this part of the fleet transition.

Bringing in new aircraft also has knock-on implications for the existing fleet. SAA has extended leases on around six A330-200s, which will now undergo cabin refurbishments.

SAA is satisfied with its A320 fleet as its preferred type for domestic and regional operations.

However, Ramasia said evaluations are under way to replace SAA’s seven A319s.

Ramasia has challenged herself at every opportunity. However, when asked whether she saw herself as SAA’s permanent CEO, she replied: “I am not applying. It’s not on my bucket list.”

Some 27 years after getting “distracted” by aviation, she is returning to her original ambitions. “Remember, I said to you, I like teaching? I was intending to do my PhD and I was going to finish my career as a lecturer. My bucket list was that, in 2020, I’m going to do my PhD,” she said.

In line with Ramasia’s HR training, she had already lined up “at least four” successors who can step into her much-loved role as SAA general manager for flight operations.

And, likewise, she is now preparing to let go of SAA and hand it over to the next generation of leadership. “I think I’ve given as much as I can to the airline,” she said. ■

*Ghana's aviation authorities see huge growth potential in Africa's air transport industry and have taken giant strides to position the sector to serve as the nation's economic driver, with the mission of developing a regional aviation hub. **Chukwu Emeke** reports.*

Joseph Kofi Adda: "Once we have been able to modernise our infrastructure and make it attractive, it will bring more people to support us in terms of economic development."



## Ghana accelerates its transformation

**G**hana has initiated plans for a dedicated programme, dubbed 'aviation-driven developments' which seeks to use aviation as a driver for socio-economic transformation.

It will see, among other things, the creation of an MRO facility at Tamale International Airport, construction of a cargo facility, development of an aviation training organisation for pilot training, and construction of a state-of-the-art control tower at the Kotoka International Airport (KIA).

Joseph Kofi Adda, Ghana's Minister of Aviation, said: "Once we have been able to modernise our infrastructure and make it attractive, it will bring more people to support us in terms of economic development.

"Another area is service provision; we need to keep training the people.

"Capacity development is equally important for us; we need to be more efficient for a lot of people to come to Ghana and Africa in general."

Ghana's aviation industry has seen considerable growth

in recent years. International passenger numbers have grown by 6.7% as of September 2019, compared to 2018. Air freight movement has also increased by 5.9%.

Currently, 38 airlines are operating in Ghana and they connect directly to 30 different destinations around the globe.

Some 1.3 million tourists visited Ghana in 2017, and the industry contributed \$2.5 billion to the nation's gross domestic product (GDP) in 2018.

International aircraft movements increased from 15,723 in 2007 to 29,015 in 2018, while domestic aircraft movement went up from 10,091 in 2007 to 10,140 in 2018.

The new \$275 million KIA Terminal 3 building was opened in September 2018, giving the airport a base on which to build its hub model. The flagship airport handled 2.5 million passengers in 2017 and is designed to handle five million.

After the International Civil Aviation Organization (ICAO) concluded its coordinated validation mission in April 2019, Ghana obtained an effective implementation rate of 89.89%, the highest by an African country.



Adda said all the documentation needed for the establishment of Ghana's new national airline had been concluded.

He appealed to all stakeholders to work towards attracting more travellers to Ghana, in particular, as well as the entire continent of Africa. "We have to work on the economics to make sure that the people can afford the disposable income they need and be able to fly. The airlines also need to work on making sure that port fees and charges are brought down to a minimum level for them to be able to maintain the good services they are providing and also, to make the tickets affordable to boost flying in Africa," he said.

He urged his counterparts in the sub-region to embrace the single African air transport market (SAATM) initiative and support its implementation, especially as some airlines in west Africa have complained of regulatory resistance to their efforts of practical implementation, which come in the form of outrageous charges and conditions.

"It is our duty, as government operatives, to ensure that we look through this matter seriously and try to address the issues that are involved," said the minister. "Governments across west Africa, and Africa in general, have a role to play in making sure that we overcome the regulatory regime and should be friendly enough to accept airlines from other countries.

"And, if the airlines and the airports will work on the other things required to make sure that everybody participates, that is fine. The more the numbers come from the passenger levels, the more every country can make progress." ■

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*Somas Appavou, directeur général d'Air Mauritius, fut ravi d'accueillir la 51ème assemblée générale de l'AFRAA. Il a déclaré à Anuradha Deenapanray Chappard que la compagnie a mis le cap sur la restructuration, la modernisation de sa flotte, la diversification de son offre, une connectivité renforcée et un développement durable.*

## SOLEIL, MER, PLAGES ET HOSPITALITÉ - LES CLÉS D'UN AVENIR RADIEUX

«Sun, sea, sand and hospitality - the keys to a bright future» – Page 20



**Il y a des efforts à faire pour donner plus de visibilité à notre destination et de coller avec ce que le client cherche. Notre offre est basée sur le soleil, la mer et la plage. Les jeunes cherchent une expérience de vie. Nous devons relier ces éléments pour que le produit soit plus attrayant.**

SOMAS APPAVOU

**C**omme les autres compagnies de la région, la compagnie nationale mauricienne est confrontée à un contexte économique compliqué ainsi qu'à une forte concurrence. Elle a annoncé une légère amélioration de sa performance opérationnelle pour le deuxième trimestre de l'exercice financier 2019/2020 malgré les effets de la dégradation de l'euro et de l'application des nouvelles normes comptables en vigueur cette année.

Air Mauritius résiste aux facteurs externes. « Notre compagnie nationale reste un moteur de l'économie mauricienne. L'apport direct et indirect du transport

aérien et du tourisme représente 23,6% du PIB du pays, soit 1 10 000 personnes travaillant dans ce secteur. Elle est de 3% en moyenne dans les autres pays », affirme Somas Appavou.

La compagnie a entamé une année de restructuration de son modèle économique. Elle a entamé l'application des premiers éléments du rapport CAPA portant notamment sur son réseau et ses actions commerciales. Pour Somas Appavou, le modèle fonctionnait mais l'environnement, les générations et les demandes changent. Il existe de nombreuses destinations concurrentielles aujourd'hui.

Pour cela, il faut miser sur les atouts, comme sur le concept « one key view ».

« Il y a des efforts à faire pour donner plus de visibilité à notre destination et de coller avec ce que le client cherche. Notre offre est basée sur le soleil, la mer et la plage. Les jeunes cherchent une expérience de vie. Nous devons relier ces éléments pour que le produit soit plus attrayant. »

La stratégie de développement d'Air Mauritius repose sur trois phases distinctes ; de simplification (réseau, flotte et opérations), de consolidation (fréquences accrues) et d'extension/d'expansion.

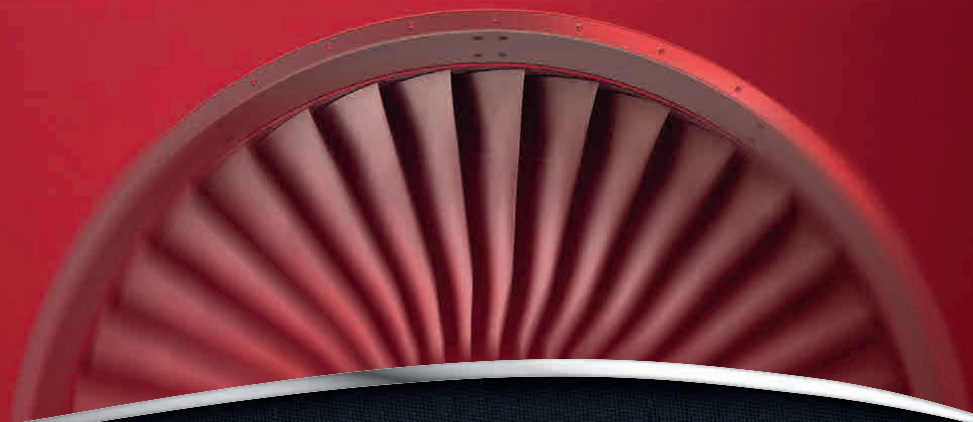
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la page 20

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Extraordinary together



SUITE DE LA PAGE 19

La compagnie opère aujourd'hui des vols directs vers 22 destinations sur quatre continents et offre plus d'une centaine de connexions à partir de ses hubs en partenariat avec d'autres compagnies à Paris, Johannesburg, Nairobi, Kuala Lumpur, Singapour et Perth. Le service vers l'Europe a été renforcé avec une desserte sur Genève.

Air Mauritius capitalise sur le renouvellement et la modernisation de sa flotte à travers entre autres le remplacement de ses A340-300 par d'une part, deux A350-900 desservant Paris pour répondre à la densité du trafic, et d'autre part, par ses deux dernières acquisitions, les A330neo qui desservent l'Asie et Londres.



« La grosse partie de notre trafic vient d'Europe et d'Asie. C'est notre priorité numéro un. Notre deuxième priorité, c'est nos coûts d'opération. Il s'agit de voir comment on peut les réduire, à travers la simplification de notre flotte, les méthodes d'y arriver et ensuite la coopération régionale. Nous travaillons avec SAA. Dans notre industrie, le volume est très important. »

Air Mauritius a démarré ses opérations vers les Seychelles en juillet dernier.

Livraison du premier A330neo (Aapravasi Ghat) à Toulouse en avril 2019.



Le remplacement des trois ATR 72-500 suscite des discussions impliquant notamment l'avionneur Airbus, son partenaire depuis 1994, et le brésilien Embraer.

Les travaux d'extension de la piste de l'aéroport de Plaine Corail à Rodrigues prévue pour 2024 et le facteur de « fleet commonality » devraient peser dans le choix final.

Air Mauritius souhaite une simplification de sa flotte. La compagnie a aujourd'hui six types d'avions et il n'y a pas d'économie d'échelle.

« Nous devons avoir des avions de 150 à 200 Passagers avec un range de 6 à 7 heures de vol », explique Somas Appavou. « Nous pourrions ainsi stimuler la demande sur certaines destinations avec plus de fréquences et toucher davantage les passagers en transit », ajoute-t-il.

La compagnie veut développer le trafic de transit. Pour cela, la compagnie a inauguré en novembre dernier son « lounge », une nouvelle infrastructure pour pouvoir toucher ce segment.

« Nous visons un trafic de l'Afrique vers Maurice pour amener les passagers vers l'Asie et l'Australie. »

Air Mauritius travaille étroitement avec des compagnies africaines. Elle a notamment noué un partenariat avec la SAA pour donner plus de flexibilité aux passagers. Un autre modèle de partenariat est en cours avec Rwandair.



Cette phase de simplification s'applique également au réseau de la compagnie en Asie pour augmenter ses fréquences. Air Mauritius est montée en cadence sur ses vols vers l'Inde, passant de trois à cinq fréquences sur Bombay.

« Il est important de revoir nos priorités et de savoir où il y a de la valeur pour opérer des routes profitables », rappelle Somas Appavou.

Par ailleurs, la compagnie a une démarche pragmatique en termes de développement durable. Elle a récemment banni l'usage du plastique en cabine sur ses vols vers Rodrigues et La Réunion, et le limite sur ses vols régionaux. Depuis 2009, 77000 arbres endémiques ont été plantés en partenariat avec la Mauritian Wildlife Foundation. Et, elle participera à la plantation de coraux dans les lagons du territoire dès 2020.

Air Mauritius mène aussi une étude sur l'utilisation du biofioul sur ses vols régionaux. Signalons que Maurice produit du bioéthanol comme une alternative énergétique durable à partir d'un sous-produit de la canne, la mélasse.

La restructuration d'Air Mauritius est donc entamée.

Une mobilisation de toutes les énergies et les ressources sera déterminante pour le déploiement du nouveau plan et mener à bien la transformation de la compagnie nationale mauricienne, tant nécessaire pour elle et le pays.

SUMMARY

SUN, SEA, SAND AND HOSPITALITY - THE KEYS TO A BRIGHT FUTURE

As host, Air Mauritius' director general, Somas Appavou, had an interesting story to tell those attending the 51st annual general assembly of the African Airlines Association (AFRAA) summit.

The congress theme was 'Success in an integrated and interconnected Africa' and this was also reflected in Air Mauritius' revised business model, which includes fleet modernisation, diversification, enhanced connectivity and sustainable development.

Air Mauritius' development strategy is based on three distinct phases:

- Simplification of the network, fleet and operations;
- Consolidation, featuring increased frequencies; and
- Expansion.

Like other airlines in the region, Air Mauritius is faced with a complex economic environment – and growing competition. However, despite the weaker Euro, it was able to announce a slight improvement in its operating performance for the second quarter of the fiscal year 2019/2020.

Speaking after the assembly, Appavou told African Aerospace that the airline is resistant to external factors. "Our flagship company remains a vital driving force in the Mauritian economy as the direct and indirect contribution of commercial aviation and tourism represents 23.6% of the country's GDP, with around 110,000 people working in the sector. In many other countries, the comparable figure is an average of around 3%."

The company began a year of restructuring its

business model by implementing the first elements of the Centre for Aviation (CAPA) independent report, relating especially to its network and commercial activities. And, as Appavou explained, while the new model worked, the environment, generational needs and commercial demands change.

"We simply have to adapt," he said, "and to do this, we must focus on assets, such as the 'one key view' concept. We are making huge efforts to make our destination more visible and to stick with what our passengers are looking for.

"Overall, our offer is based on 'sun, sea and beach', as today's young travellers are looking for a life experience. So we need to link these elements together to make our product more attractive."

The company is now operating direct flights to 22 destinations on four continents and it offers more than 100 connections from its hubs in partnership with other airlines in Paris, Johannesburg, Nairobi, Kuala Lumpur, Singapore and Perth. Services to Europe have been strengthened with a new service to Geneva.

Air Mauritius is also undertaking a major renewal and modernisation of its fleet. Its ageing Airbus A340-300 aircraft are being replaced with two A350-900 aircraft that will meet growth on its route to Paris, while its two new Airbus A330neo airliners will serve both London and destinations in Asia.

"Most of our traffic comes from Europe and Asia," concluded Appavou, "so this is our number one priority. The second priority is to cut operating costs through fleet simplification and regional cooperation."

# ACC EYES UP FURTHER AFRICAN POSSIBILITIES

Aviation services provider, ACC Aviation Group, is increasingly looking to Africa as a major area of its future operations, writes Alan Dron.

The UK-based group covers a swathe of activities, from ACMI (wet-leasing) and charters to interior refurbishments, management of aviation assets and strategic business consultancy services.

With offices in New York, Rome, Dubai and Kuala Lumpur, the group has now expanded its reach to Africa by opening an office in Addis Ababa.

The bulk of ACC's activities are in the ACMI sector but, said Daniel Huggins, the company's regional VP - Africa: "We're looking at Africa not just from the leasing perspective, but growing our activity from there."



ACC has already been operating there for close to three years: "In 2016, as part of a wider group strategy of geographic expansion, we began to focus on business development in Africa; the plan was always to open an office in year three," explained Huggins.

Johannesburg, Nairobi and Addis Ababa were the three locations being studied as the site for ACC's first permanent presence on the continent, with Addis being chosen, mainly due to its connectivity with the region and globally.



Daniel Huggins: "We're looking at Africa, and not just from the leasing perspective."

ACC already has business interests there; it has a strategic partnership with Ethiopian Airlines, for example, and is seeking to increase the utilisation of the airline's fleet.

Making greater use of aircraft such as Ethiopian's Boeing 787s and Airbus A350s is possible because many of the airline's services operate into European destinations and then sit on the airport apron until the return flight to Addis Ababa, perhaps 12 to 14 hours later.



ACC is seeking to market the availability of these aircraft to operate intra-European services on behalf of other carriers during those layovers, increasing the assets' utilisation. Ethiopian's long-haul fleet is young and comprised of aircraft types that are attractive to other airlines.

The group began operations in 2002 as a short and medium-term aircraft leasing specialist, quickly becoming a significant player in the ACMI sector.

Today, ACC has operations in the UK, mainland Europe, the Middle East, Africa, North America and Asia Pacific. Its services range from ACMI and air charter to aircraft seat supply and refurbishment, aviation asset management and strategic advisory services.

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*Air Botswana general manager, Agnes Khunwana, tells Victoria Moores how she is working to stabilise operations and cut costs after a frustrating and turbulent fleet-transition year, which has laid the foundations for future growth.*

## It's been a bumpy ride... but now we're ready to take off...

**S**tate-owned Air Botswana was established in 1988 and has operated continuously since then. "It's now in its 31st year of operation," said GM Agnes Khunwana. "Unfortunately, financially, it has not been making a profit for its entire existence."

As part of its turnaround strategy, Air Botswana needed to upgrade its fleet because maintenance costs were spiralling on its aging ATRs. "At the heart of that strategy, we needed to buy new aircraft," Khunwana explained.

The plan was relatively straightforward – trade-in two ATR 42-500s and one ATR 72-500 for two new ATR 72-600s and introduce a modern Embraer 170 jet.

Even if it had gone smoothly, this was a massive transition for Air Botswana. Unfortunately, things did not go to plan. "Most of the challenges that we're being faced with is to do with bringing those three new aircraft into service," Khunwana said.

The process of introducing two new aircraft variants to the airline and getting them added to the Botswanan register took much longer than anticipated.

"Maybe, in terms of operational readiness, we were not ready for that big change to happen at the same time," Khunwana said.

She recounts how the government bought the two ATR 72-600s from ATR in 2018, for delivery to Gaborone-

Continued  
on Page 24



**Agnes Khunwana:**  
"I think there is a lot of potential for us to be able to be profitable."

CONTINUED FROM PAGE 23

headquartered Air Botswana in October and December that year.

“The old aircraft would leave for France and then another [new] one would come,” she said, but it took about a month to add each new aircraft to the Botswanan register and secure a foreign operator’s permit to fly to South Africa. With the old aircraft already gone, this left Air Botswana with limited capacity – or aircraft that could only fly locally.

“It was a very complex fleet transition. Perhaps now, looking back, we should have taken six months or so in between [deliveries]. At some points, we were down to one aircraft. One has gone, the other one – although it’s here – is only doing domestic routes, so you have just one aircraft where you would ordinarily have three.”

Air Botswana was previously operating three ATR 42-500s and one ATR 72-500, with 3.5 aircraft needed to cover its operation. For three years, the airline’s on-time performance was more than 80%. “It only dropped after the acquisition of new aircraft,” Khunwana said.

The ATR transition involved preparing new operating manuals, performing type-conversion training and securing regulatory approvals – all while keeping the core business running – but at least Air Botswana and the CAA were familiar with ATR operations.

Khunwana knew the fleet cut-over would be tough, so she had planned to lease 50-seat capacity from South African regional carrier and long-term partner, CemAir. Unfortunately, just as the transition was happening, CemAir was grounded by the South African CAA. Ultimately, CemAir successfully contested the grounding, but Air Botswana had lost its back-up plan.

“The plan was to have CemAir filling in. We were almost like a partner to CemAir. We called them all the time, until the South African CAA permanently grounded them and then the plan collapsed.

“On-time performance is the only thing standing between us and profitability.”

AGNES KHUNWANA

“In this market, it is difficult get a lease on a similar-sized aircraft,” added Khunwana. “They never disappointed us, so when they were grounded, we didn’t have a solution. It has been difficult because, in the end, it appears like you didn’t plan. If you don’t plan, you know that you are planning to fail. It was really a movement of the assumptions that we made when we planned.”

Air Botswana had retained one ATR 42-500, but this created operational pressures, because the ATR 72-600 is a new variant and the crews were not easily interchangeable. The ATR 42-500 is now parked and up for sale, because of that complexity.

Meanwhile, another situation was emerging. Alongside the ATRs, Air Botswana had agreed to acquire a very low-cycle E170 that had previously been used for corporate-jet work, funded by a government loan. “The seller needed us to take it by December [2018], or there would be no deal,” Khunwana said, so Air Botswana was forced to take delivery on December 31. “We didn’t want to miss that deal, because it was low hours,” she explained.



This time, the E170 was a completely new type for both the airline and the CAA. “The jet was even more of a challenge,” she said. “You are learning, but the regulator is also learning. It wasn’t a smooth process at all.”

The E170 took six months to enter commercial service, before it finally came online in July 2019. With only one aircraft of the type in service, any technical problems – such as bird strikes – are disruptive. This meant Air Botswana was forced to bring in much larger jets to cover for the E170, such as Airbus A320s or Boeing 737s.

“There’s no point in giving a good experience today, when tomorrow you are not in service,” Khunwana said. “That is our biggest headache.”

This means business continuity has become a real focus point for Air Botswana. “On-time performance is the only thing standing between us and profitability,” she said. “Once we move away from that, 100% we will get the market back. There’s no doubt.”

Despite all the troubles with the fleet transition, Khunwana feels Air Botswana still chose the right aircraft types and she is hoping to introduce a third ATR 72-600 at some point.

Originally, Air Botswana had planned to operate a “balanced fleet” of two ATR 72-600s and two E170s but, after the recent problems, Khunwana is determined to stabilise operations. That is challenging with the E170, because the Air Botswana pilots are still transitioning and need to work alongside expat captains to build their hours. The airline’s slimmed down schedule means this is a slow process, making it simpler to add another ATR 72-600.

“We have to grow to survive,” she said. However, the E170 will also pave the way for this

growth, because it provides a good customer experience and is an hour quicker than the ATR on longer sectors, like Cape Town.

“When it’s flying, we get lots of positive feedback, so we are convinced that it is the right choice of aircraft for us to buy. There’s a lot of light I can see at the end of the tunnel, but in terms of on-time performance, we are not where we would like it to be,” Khunwana said.

The fleet transition forms part of a wider 2016-21 business strategy developed by IATA’s consultancy team. Beyond the fleet renewal, the plan includes an organisational restructuring and IT modernisation. “There’s a lot of manual-process dependence,” she explained.

Khunwana said Air Botswana’s losses are “nowhere near” some other African airlines. At the airline’s lowest point, losses hit \$3 million, but this was narrowed to around \$1.2 million in 2017.

Under the business plan, Air Botswana is anticipating a minimum of 3-5% year-on-year growth through to 2021. “On good days, they [the aircraft] are full. The market is there; there’s no doubt,” she said.

Demand is good and Air Botswana’s revenue is comparable to other airlines of a similar size, but its costs are much higher, leading to losses.

“I think there is a lot of potential for us to be able to be profitable. In terms of revenue, we are not doing badly. Where we need to improve a lot is cost containment,” she said.

Just as this article went to press, Khunwana announced a significant headcount reduction, aimed at cutting costs.

“The market is there. If we stabilise our operations, I have no doubt that we can get back the market that we have lost. We just need to give the customers confidence that we can be relied upon,” she said. “I think we’ve been through the worst. We are positive that things will change.” ■

“There’s no point in giving a good experience today, when tomorrow you are not in service. That is our biggest headache.”

AGNES KHUNWANA

*New domestic services, new branding and – hopefully – new aircraft will make 2020 a significant year for FlyEgypt, its CEO tells Alan Dron.*

## FlyEgypt's MAX headroom for improvements

It's not only major airlines that have suffered from the grounding of Boeing's 737 MAX. Small Egyptian hybrid carrier, FlyEgypt, was on course to take the first two of an order for four MAX 8s in time for summer season 2019 when the latest model of Boeing's popular single-aisle jet was grounded in March 2019.

That was a major problem for FlyEgypt's CEO, Captain Ehab El Tahtawi, and his team. A "very promising" summer 2019 season had been in prospect, with contracts having been signed with several European tour operators for flights to Egypt's holiday destinations.

"In March 2019, everything went in the wrong direction, as you know," Tahtawi said. "We've been suffering actually."

The sudden loss of planned capacity required FlyEgypt to renegotiate agreements with European customers and to shrink operations for the season. However, with goodwill on both sides, some contracts were halted, others deferred until 2020.

Assuming that the MAX returns to service as anticipated, Tahtawi is hopeful that the first two new aircraft will arrive in Q2 this year, although he is not yet sure when the second pair will appear: "We're still in talks with the lessors," he explained.

The airline's current fleet consists of five Boeing 737-800s, plus two of the smaller -700 variant. The introduction of the MAXs – whenever they eventually appear – will probably be the last additions until after the airline's current medium-term plan ends in 2024.

FlyEgypt's network is an unusual blend of 70% charter flights from Europe plus 30% scheduled services. The charter sector offers considerable opportunities, as Tahtawi estimated that only 8 to 10% of holidaymakers heading to Egypt are carried by the country's airlines.

This is more than double the figure of five years ago, when only 3% of tourists were carried by Egyptian airlines, but still leaves considerable potential for expansion. Tahtawi believes that Egyptian companies' lower cost-bases make them competitive with European rivals when carrying tourists to Egypt.

Since its origin in 2015, FlyEgypt has expanded swiftly. In its first year of operation, it carried 90,000 passengers. In 2018, that had risen to 750,000 and last year, despite the problems, the airline looked likely to "join the one million club", as Tahtawi put it.

Those numbers are set to grow further this year, as the airline has now launched a domestic route network, with flights from Cairo to five Egyptian destinations.



**Captain Ehab El Tahtawi:**  
"Launching the domestic network has been a key component of our long-term growth plans."



**Fresh look:** The company's new livery, which draws from Nubian traditions, is seen here on one of the two Boeing 737-700s in the fleet.

"Launching the domestic network has been a key component of our long-term growth plans, and we're very excited to be finally seeing this milestone come to life," he said as he announced the new services in late October. "Not only is it important for us as an airline, but we believe that it helps support tourism and rural employment, which are both critical for Egypt's national economy."

FlyEgypt will operate scheduled services from Cairo International Airport to Hurghada, Sharm El Sheikh, Marsa Alam, Luxor and Aswan. "We'll be building up our domestic capacity into early 2020," added chief commercial officer Karim Bakry.

The launch of the new domestic network was a major factor behind the decision to rebrand the airline, just five years after its launch.

"Originally, we were only transporting Europeans to Egypt," explained Tahtawi.

"It was a brand that was known in Europe, but not in Egypt. Now we're approaching Egyptian customers, we wanted to have a fresh livery."

The company has chosen a combination of colours and arcs, reminiscent of Nubian culture, that will be immediately familiar to domestic passengers.

The company will offer both an economy and premium economy option on its domestic flights, a reflection of its positioning as a hybrid carrier.

"We're not a pure low-cost carrier," Tahtawi said. "We don't sell each and every service." Additionally, FlyEgypt is taking under its own control certain services that a low-cost carrier would outsource, such as its own ground-handling, which it discovered it could do more economically than paying EgyptAir for the service.

So, 2020 holds the promise that 2019 did a year ago. All FlyEgypt needs now is those MAXs.



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*After being grounded for almost a year, the Boeing 737MAX is being tested and prepared for re-entry to service. Boeing's managing director for sub-Saharan Africa, João Miguel Santos, talks to Alan Peaford.*

# Passenger confidence is vital for the MAX to return



**T**he terrible events of March 9 2019, when the Boeing 737MAX operated as Ethiopian Airlines ET309 entered its fatal dive, made an impact not just on the families and friends of those killed, nor the airline and, indeed, the African aviation community – but also may have changed the way new aircraft are brought to market.

For Boeing, the effect has been devastating and has badly affected everyone involved with a company whose aircraft are the backbone of Africa's airline industry.

João Miguel Santos, a 40-year veteran with the American manufacturer, is more subdued than usual.

"Let me say first and foremost it has been a difficult year," Santos said. "We are truly, truly sorry for what has happened and we hope it will never happen again. We are taking all the measures that we possibly can, as well as working with the regulators and working with the airlines to make sure that it never happens again."

Santos is confident that the 737MAX will be back and continuing as the fastest-selling aircraft in airline history.

"For the airlines, it has been seen as a technical issue and these get resolved. However, as the grounding drags on for longer than expected, there are more questions being raised, maybe in the marketplace, not necessarily with my customers, but with the confidence level that passengers will have to fly the aeroplane."

Santos believes that with all of the work that has gone on during the grounding period – with software indicated as the cause of the accident – as well as the reviewing of other

**• We are working with the operators, their pilots and cabin crew – the people who will fly in the aircraft every day – we want them to assure their customers that the MAX is safe.**  
JOÃO MIGUEL SANTOS

systems, then once re-certificated the MAX should be the safest aircraft flying.

"We are working with the operators, their pilots and cabin crew – the people who will fly in the aircraft every day – we want them to assure their customers that the MAX is safe," he said.

"In a survey in Africa we found that passengers trust the regulators and the pilots."

Santos is excited about the prospect of more MAX aircraft in Africa and believes that there are more airlines waiting to place orders.

Speaking at the AFRAA annual meeting in Mauritius, he had also argued that airlines should be looking at comfort – particularly as modern aircraft are going further and, as a result, flights are longer. Narrow-bodies like the MAX and the A321 will fly missions that were historically carried out by wide-body aircraft and the wide-bodies, like the 777X and the A350XWB, will conduct routes that used to be two separate flights.



"I was on the aircraft that did the world record 22 hours seven minutes; I was giddy when I landed. We are flying longer," he said.

"We work closely with airlines when we design an aircraft but we don't control the interiors and, increasingly, there is a push to get more seats in. I think there is a point where we have to somehow find a way to establish a certain set of parameters that you cannot go beyond."

Santos is a firm believer in the potential for Africa and is hopeful that the latest single African air transport market (SAATM) will be more successful than its predecessor, the Yamoussoukro Declaration (YD) – the original open skies agreement that celebrated its 20th anniversary in November... but has still not been implemented.

"People keep celebrating the signing of the YD but I find that a bit ridiculous. Why are you celebrating something that you've signed, but you have never been able to implement?"

"I'm tired of hearing about it. We were at the African Union for the launch of SAATM and I truly hope it can bring open skies to Africa. But there is a way to go. They need to find a way to start working together to develop the marketplace in a way that we actually have true open skies."

"You know, it's not easy to compare Africa with the US, or even Europe, but you can compare with Latin America. They had many different airlines many years ago but today it's just three major airlines. They all combined and can provide the consumer a better product, meaning, more frequencies at a lower price."



*Air Austral a accueilli l'assemblée générale de l'AASA (Airlines Association of Southern Africa) à l'île de La Réunion en septembre dernier. Vincent Chappard s'est entretenu avec son PDG, Marie-Joseph Malé (à gauche), sur les enjeux de la compagnie réunionnaise face aux évolutions du marché.*

# Diversification et différenciation

**A**ir Austral a connu un exercice financier 2018-2019 assez compliqué. La compagnie réunionnaise a connu une croissance de 3% sur le long-courrier et le marché régional, et une progression de son chiffre d'affaires de 5%. Elle a également enregistré une baisse de sa recette unitaire dans un contexte économique complexe lié à des éléments géopolitiques et conjoncturels fortement pénalisants. Citons l'augmentation brutale du prix du kérosène (surcoût de plus de 14.4 millions d'euros), l'appréciation de la devise américaine impactant les coûts de MRO et surtout l'immobilisation de deux B787-8 suite à des problèmes constatés sur les moteurs Trent 1000 (Retrofit) contraignant ainsi la compagnie à affréter des avions avec des conséquences fortement négatives en termes d'image et de coût. Les routes vers Mayotte ont été particulièrement touchées. Le mouvement des gilets jaunes a aussi eu un impact majeur sur le programme de vol et le ralentissement des réservations.

« Air Austral est en train de s'adapter aux nouvelles données du marché de l'aérien. Elle conduit une stratégie qui est aujourd'hui payante. C'est son avenir vers une rentabilité saine et durable que nous sommes en train de construire », rappelle Marie Joseph Malé, le PDG d'Air Austral.

Air Austral a connu cinq années de bénéfices grâce à un business model cadrant avec le paysage aérien relativement stable en termes de

## Airbus se renforce en Afrique

**Airbus consolide sa présence en Afrique et en particulier dans l'océan Indien.**

**Air Mauritius fut la première compagnie au monde à exploiter à la fois l'A350 et l'A330neo. Air Seychelles a été la première compagnie à opérer l'A320neo en Afrique. Air Austral sera le premier exploitant de l'A220 dans la région. Selon Christopher Buckley, Vice-président exécutif d'Airbus, le marché reste difficile mais il existe beaucoup de potentiel en Afrique notamment pour le remplacement des anciens avions. Il y a également beaucoup de compagnies aériennes en croissance. « Il faut être présent dans chaque pays sur le continent et nous avons renforcé nos équipes en Afrique. »**

concurrency internationale. Celle-ci est devenue « débridée voir déloyale » avec l'arrivée de deux compagnies sur l'axe Paris-La Réunion. Cela a apporté 20% de capacités supplémentaires et a déstabilisé le marché.

Ayant anticipé ces changements, Air Austral a mis en place une stratégie de diversification et de différenciation qui s'est déclinée en trois axes : le développement de la route Paris-Mayotte et la réouverture de la desserte La Réunion-Marseille, l'investissement dans un produit à haute contribution, et le renforcement du réseau et de la connectivité avec Air Madagascar.

La compagnie malgache poursuit également son redressement. Tsaradia a pris sa vitesse de croisière et compte bien continuer sa progression. Des routes seront ouvertes vers l'Afrique du Sud. Le tourisme se développe dans la Grande île avec dans son sillage le transport aérien. L'arrivée de touristes à Madagascar a augmenté de 42% durant les sept premiers mois de 2019.

« Nos résultats se sont améliorés et nous consolidons notre stratégie qui porte ses fruits », souligne Marie-Joseph Malé.

La compagnie réunionnaise poursuit ainsi sa feuille de route avec un objectif de retour à l'équilibre. Les B787 sont opérationnels avec des contrôles réguliers sur ces moteurs.

Air Austral a marqué le coup lors du 49ème congrès annuel de l'AASA en signant un protocole d'accord avec Airbus pour la commande de trois A220-300. Celle-ci s'inscrit



Nouvelles tenues des équipages d'Air Austral inspirées du volcan réunionnais, le Piton de la Fournaise.



## La formation en pointe à La Réunion

L'École de formation d'Air Austral a reçu officiellement l'agrément DGAC pour l'examen pratique du CCA (Cabin Crew Attestation).

Depuis plus de deux ans, Air Austral propose une formation aux hôtesses de l'air et aux stewards, et plus récemment au métier d'agent d'escale. Près de 200 jeunes ont été formés au métier de PNC. La compagnie devient ainsi le premier centre d'examens dans l'océan Indien et le quatrième en France. Le premier centre de simulation de vol pour pilote d'A220 de l'océan Indien sera installé à La Réunion. Un MOU a été signé le 15 novembre dernier posant les bases du projet. Il débutera ses opérations en septembre 2021.

dans le cadre du renouvellement de sa flotte court et moyen-courrier. Elle est aujourd'hui composée de deux B787-8, trois B777-300, de deux B737-800 et d'un ATR 72-500.

Pour Marie-Joseph Malé, ce renouvellement aura trois vertus. La première permettra de passer d'une flotte hétérogène à une flotte homogène. Air Austral va remplacer progressivement ses deux Boeing 737-800NG et son ATR 72-500. Les A220 seront livrés à partir de novembre 2020. Cela permettra à la compagnie de trouver une synergie de coût notamment pour les pièces de rechange, la MRO et la formation des pilotes.

Deuxièmement, il s'agit d'intégrer des avions plus performants dotés de technologies modernes pour mieux optimiser le remplissage des appareils quand il y a moins de flux.

Il sera également possible d'augmenter les fréquences sur les destinations. Air Austral dessert actuellement l'Afrique du Sud, les Comores, l'île Maurice, Mayotte, les Seychelles et six aéroports de Madagascar sur son réseau régional.

À noter, qu'Air Madagascar mène des études pour renouveler sa flotte long-courrier à l'horizon 2023.

Air Austral offre désormais à sa clientèle la possibilité de poser une option appelée « délai de réflexion » grâce à son partenaire Optionzr. Elle bénéficie ainsi d'un délai de réflexion (5 jours) pour se décider ou convaincre un proche ou un ami de l'accompagner. ■

## SUMMARY

### THREE-POINT PLAN THAT KEEPS AIR AUSTRAL BULLISH

Reunion Island's Air Austral enjoyed a positive financial year in 2018/19, having experienced a 3% growth in both its long-haul and regional markets, together with a 5% increase in revenue.

However, despite this, CEO, Marie-Joseph Malé, remains aware of the challenges facing the airline.

Speaking after the Air Austral-hosted Airlines Association of Southern Africa (AASA) AGM, Malé explained that negative geopolitical and economic issues outside the airline's control – including the strengthening US dollar, the French 'gilets jaunes' protests that affected bookings from France, fuel and MRO cost hikes, and the grounding of its two Boeing 787-8 Dreamliners with engine problems – had all reduced revenue. Fuel costs alone had increased by €14.4 million (\$15.98m).

But Malé remains positive. "Air Austral is adapting to the new conditions of the commercial aviation marketplace. Its strategy is now paying off and we are confident about the future, as we're building the foundations that will see healthy and sustainable profitability."

Air Austral had previously experienced five profitable years, thanks to a business model in line with a relatively stable commercial aviation market, both locally and internationally. However, Malé said the past year had seen "unbridled or even unfair" conditions arise, with the arrival of two airlines flying the Paris to Reunion route, which added 20% more capacity and destabilised the market.

□ □ □ □ □

Having anticipated these changes, Air Austral management developed its strategy of diversification and differentiation that has been divided into three areas: the development of the Paris to Mayotte route and the restarting of Reunion to Marseille flights; investment in high-revenue capacity; and the strengthening of the airline's relationship with Air Madagascar for both connectivity and network.

The Malagasy airline is also continuing its recovery. Tsaradia is maintaining its renewed progress made by – among other initiatives – opening routes to South Africa. And tourism to the island of Madagascar continues to grow, with figures increasing by around 42% in the first seven months of 2019.

Air Austral marked the occasion at the 49th annual AASA Congress and AGM by signing an agreement with Airbus for three A220-300 single-aisle airliners, due for delivery from November 2020.

The airline will be the first operator of the aircraft in the region and the order comes as part of the renewal of its fleet, that today comprises two Boeing 787-8s, three B-777-300s, two B-737-800s and an ATR 72-500.

For Malé, this fleet renewal has considerable advantages. The first is fleet rationalisation, as Air Austral will replace its two Boeing 737-800NG aircraft and its ATR 72-500s with Airbus products.

"Secondly," he explained, "we need to optimise seat capacity when traffic flows fluctuate. It will also be possible to increase flight frequency to our major destinations." ■



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*Le Groupe Avico est entré au capital de la compagnie sénégalaise Arc en Ciel et vient renforcer sa présence en Afrique. Vincent Chappard nous en dit plus.*

# AVICO POURSUIT SON EXPANSION

**A**près avoir pris une participation dans le capital de Safe Flight Academy (Tunisie) en 2018, le groupe Avico a fait l'acquisition de la compagnie aérienne sénégalaise Arc en Ciel. Celle-ci est spécialisée dans l'évacuation sanitaire, la location d'avions, le fret express, l'aviation d'affaires et les vols à la demande. La compagnie privée dispose d'une flotte de six avions de transport régionaux et d'affaires. Basée à Dakar, Arc en Ciel a été fondée en 1996 puis rachetée en 2004 par son actuel président Michel Jacquot, un pilote avec une longue expérience dans l'aéronautique.



« Il ne s'agit pas aujourd'hui de changer radicalement le modèle économique d'Arc en Ciel mais d'accompagner son développement pour déployer plus largement ses ailes en s'appuyant sur le savoir-faire opérationnel des acteurs en place et sur le réseau commercial du Groupe Avico », soutient Gilles Gompertz, le directeur général.

Avico est aujourd'hui l'un des principaux acteurs européens du marché de l'affrètement. Le groupe propose une gamme intégrée de services pour le transport aérien à travers 10 marques commerciales et 24

**Gilles Gompertz:**  
« Nous devons avoir une plus grande proximité pour mieux servir les besoins et la clientèle du continent. »



filiales dans 10 pays. En Afrique, Avico est implanté au Maroc, en Côte d'Ivoire, en Tunisie et en Afrique du sud.

Pour Gilles Gompertz, l'Afrique a un besoin structurel de transport aérien et dispose d'un énorme potentiel de développement. L'enjeu, c'est de permettre à celui-ci de se réaliser. Pour cela, il est nécessaire d'élargir les offres avec un niveau qualitatif irréprochable et de s'appuyer sur des coûts de production compétitifs. « Nous devons avoir une plus grande proximité pour mieux servir les besoins et la clientèle du continent. »

Le Moyen-Orient et l'Afrique sont donc des axes de développement essentiels pour le groupe. Il y réalise environ 30% de son activité.

Avico souhaite apporter à la compagnie sénégalaise des services plus élargis avec des avions plus rapides et disposant d'un rayon d'action plus important. D'ici deux ans, le groupe compte mettre en service deux avions d'affaires pour mieux répondre aux attentes des hommes d'affaires. Cela devra commencer avec un premier Beech 1900.

« Nous souhaitons être mieux en mesure de servir les pays limitrophes qui font aujourd'hui appel à des compagnies beaucoup plus éloignées pour répondre à leurs attentes », souligne Gilles Gompertz.

Arc en Ciel va ainsi bénéficier de moyens commerciaux et financiers plus importants pour se développer. Elle permettra ensuite à Avico d'apporter une offre élargie et de nouvelles synergies.

« Le savoir-faire des équipes et le professionnalisme d'Arc en Ciel sont des atouts clefs pour participer au développement du transport aérien au départ et à destination du Sénégal », affirme Mourad Majoul, fondateur et président du Groupe Avico.



Une partie importante de l'activité d'Avico est consacrée à l'accroissement des opportunités commerciales entre acteurs et clients du transport aérien. Le groupe a créé une quinzaine de sociétés avec la volonté d'augmenter sa visibilité et sa clientèle à l'international.

La recomposition du ciel sénégalais est en train de s'opérer de façon raisonnée avec la montée en puissance d'Air Sénégal. Il y a également Transair qui dessert l'Afrique de l'Ouest. La compagnie Arc en Ciel va ainsi pleinement jouer son rôle dans le ciel du pays de la Téranga.

## SUMMARY

### AVICO EXPANDS FURTHER INTO AFRICA

International commercial aviation leasing and management company – the Avico Group – has acquired Senegalese business aircraft operator Arc en Ciel (Rainbow).

This is a further move towards increasing Avico's African presence, which began by taking a stake in Tunisia's Safe Flight Academy in 2018.

Arc en Ciel specialises in medical evacuation, aircraft rental, express freight, business aviation and on-demand flights. The company has a fleet of six regional and business transport aircraft and is based in Dakar.

The specialist operator was founded in 1996 and was acquired in 2004 by its current president, Michel Jacquot, who has considerable experience in commercial aviation.

"It is not a question today of radically changing the economic model of Arc en Ciel,

but of helping it to spread its wings more widely by utilising Avico's operational know-how and the sales network," explained general manager, Gilles Gompertz.

Avico is one of the leading European players in the aviation charter market and the group offers an integrated range of air transport services through 10 brands and with 24 subsidiaries in 10 countries. In Africa, Avico is located in Morocco, Côte d'Ivoire, Tunisia and South Africa.

For Gompertz, Africa has a structural need for air transport and a huge potential for development "... although the challenge is to make it happen".

For this it is vital to expand the offers with an impeccable quality level and to rely on competitive costs. "We need to have greater presence to better serve the needs and clients of the continent," concluded Gompertz. ■



**Ali Ahmed Alnaqbi: « Notre industrie ne reçoit pas d'injection de sang frais. C'est pourquoi nous visons plus particulièrement les universités et les collèges. »**

entre 2016 et 2018. Il existe actuellement 70 opérateurs dans l'aviation d'affaires et privée au Maroc.

Lors de l'inauguration du salon, Mohammed Sajid, le ministre du tourisme, du transport aérien, de l'artisanat et de l'économie sociale, a réitéré le soutien des autorités marocaines à l'aviation d'affaires. « Nous voyons aujourd'hui surgir un certain nombre de sociétés qui opèrent aujourd'hui dans ce secteur d'activités. »

Pour sa part, Ali Ahmed Alnaqbi, président fondateur et directeur exécutif de la MEBAA, a abordé les principaux défis auxquels est confrontée l'aviation d'affaires.

Il a souligné que la durabilité de ce secteur est un élément important. À l'avenir, il y aura des départs à la retraite. « Notre industrie ne reçoit pas d'injection de sang frais. C'est pourquoi nous visons plus particulièrement les universités et les collèges » pour former les jeunes et alimenter l'aviation d'affaires et l'aviation en général.



Sur ce chapitre, Nouredine Mouaddib, le président de l'université internationale de Rabat, a souligné que la croissance du nombre de personnes formées ne suit pas celle du transport aérien. De ce fait, il y aura une vraie tension dans plusieurs domaines.

La MEBAA a mis un coup de projecteur sur les opportunités qu'offrent les outils innovants comme le Big Data ou encore le Blockchain au secteur de l'aviation d'affaires.

Le Big Data peut apporter une meilleure connaissance et une expérience entièrement personnalisée aux clients. United Airlines a par exemple collecté plus de 150 critères sur ses clients lui permettant de proposer une offre sur mesure. Cette approche a entraîné une hausse de plus de 15% des revenus des activités d'une année à l'autre.

Par ailleurs, le salon MEBAA a mis en exergue de nouveaux opérateurs en Afrique du Nord comme Sarah Airways, Amac Aerospace, Carthage Sky Services, Air Océan Maroc ou Heliconia Aero solutions. Dassault Aviation a marqué sa présence avec un Falcon 900XL sur le statique.

Une nouvelle expérience attend les passagers de l'aviation d'affaires d'ici la fin de l'année à l'aéroport de Marrakech.

Le FBO est en voie d'achèvement. Marrakech représente 50% du trafic de l'aviation d'affaires dans le pays. Pour Christophe de Figueiredo, le directeur général de Swissport et Julian Pitaressi, celui de Jetex au Maroc, cette installation va sans conteste améliorer la qualité du service et répondre aux attentes des clients. ■

## LES TALENTS: LE MAILLON FORT DE LA SUPPLY CHAIN

*L'aviation d'affaires s'était donnée rendez-vous en septembre dernier au salon MEBAA 2019 Morocco. Le point avec Vincent Chappard.*

**L**a troisième édition de la MEBAA Conference and Show a montré le dynamisme et le potentiel de l'aviation d'affaires en Afrique du Nord.

Selon la MEBAA (source IATA), il y aura 175 000 mouvements d'avions d'affaires dans la région MENA d'ici 2020. Bombardier prévoit la livraison de 200 avions à destination de l'Afrique d'ici 2025. Après une baisse au cours des trois derniers trimestres consécutifs, les heures de vol en Afrique ont été en hausse durant les deux trimestres consécutifs de 2018. L'activité aérienne est ainsi à son plus haut niveau depuis 2008.

Le Maroc occupe une position stratégique entre les marchés européens, africains et du Moyen-Orient en tant que destination centrale, à la fois en termes de géographie et de capacité. Selon l'Office National des Aéroports (l'ONDA), les aéroports du pays gèrent 50% des mouvements d'avions d'affaires en Afrique du Nord. Le pays a enregistré une croissance de 6% des passagers de l'aviation d'affaires et de 9% des mouvements dans ce segment

highest level of aviation activity since 2008.

The host nation occupies a strategic position, linking European, African and Middle East business aviation markets, both in terms of geography and capacity.

According to the National Office of Airports, the country handles around half of the business aviation movements in north Africa with Morocco recording growth of 6% in business passengers, and 9% of aircraft movements from 2016 to 2018.

There are currently 70 operators in business and private aviation in Morocco.

Ali Ahmed Alnaqbi, founding president and executive director of MEBAA, addressed the key challenges facing business aviation, stressing that sustainability in this sector is an important element.

"Our industry does not receive a sufficient injection of fresh blood, which is why we are targeting universities and colleges to train young people and fuel both business and general aviation," he said. ■

### SUMMARY

#### MISSING LINKS IN THE TALENT SUPPLY CHAIN

Morocco hosted September's Middle East Business Aviation Association (MEBAA) conference and the event heard from industry and academic leaders that the sector needs an injection of highly qualified people to fuel the expected increase in business flights in the region.

According to IATA, there could be 175,000 business aircraft movements in the MENA region by 2020.

And, after a recent decline, flying hours in Africa increased in two consecutive quarters of 2018 – the



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*After a family disaster, Dr Ola Brown set herself the ambitious task of changing the west African healthcare sector by setting up Flying Doctors Nigeria. Marcelle Nethersole reports.*

# Tragedy that turned Dr Ola into a Nigerian lifesaver

It was while studying to become a doctor overseas that tragedy struck for Dr Ola Brown. Her sister lost her life while on holiday in Nigeria.

The reason? The local hospital was unable to manage her sickle cell anaemia and, after a frantic search by Brown and her family for an air ambulance to take her sister to a suitable medical facility, none was found. There was no air ambulance.

That, for Brown, was the single drive to change the narrative that one of the biggest challenges for healthcare in Africa is access to advanced care – and she was going to do something about it.

After graduating in the UK – her post-graduate areas of study include pre-hospital emergency care, healthcare leadership and healthcare delivery – Brown worked in acute medicine for several years, including in Tokyo, before returning to Nigeria.



She now had an answer to the healthcare problem – to start up her own air ambulance service.

“After the death of my sister, my mission to this day is to ensure that fewer people die because they live too far away from a hospital or medical facility,” said Brown.

“So, I looked for a way to make the largest impact I could on the Nigerian healthcare sector, and that way was founding Flying Doctors Nigeria.”

Now 12 years old, it is the leading Nigerian air ambulance service providing urgent medical assistance in trauma situations and emergencies across west Africa, where every second counts.

“We are one of the first air ambulance companies that established a specially designed medical cabin that fits into a scheduled commercial flight emergency transport unit,” explained Brown – herself a helicopter pilot with specialised training in aviation medicine.

“It is an advanced custom-designed unit that can transform a small section of a regular commercial flight into an intensive care unit in just 10 minutes. It uses the same equipment as



can be found in an air ambulance, allowing for the same level of critical care to be administered in flight, all at a fraction of the cost of a full air ambulance.”

The company’s facility is located at Quits Aviation Hangar in Lagos, where it has access to several aircraft, including its Hawker 800XP and Challenger 604.

“We have our own pilots and aviation personnel, making it easy for us to depart promptly in the case of an emergency,” explained Brown.

“We also have more than 200 doctors and nurses, made up of full-time personnel and locum medics.”



To this day, the company has saved countless lives in all types of situations.

Brown offers one example: “We transferred a critically unwell 27-year-old sickle cell patient from Lagos to Sokoto at no cost. He was in a near death condition at that time; the patient and his family members had almost given up. Today that situation has turned around, which makes me

believe we can save more people all over the world.

“We also transfer sick and pre-term babies in our baby pod, pre and post-natal mothers, intubated patients, and quadriplegic patients, to name but a few.”

The company initially started with money raised by Brown from her work in the UK and Japan. Currently it is able to fund itself.

The doctor is not just a medic and pilot, but also an entrepreneur: She works tirelessly to highlight the poor healthcare in Africa and also advises various businesses, charities and governments on how to improve standards.

Also, along with two other directors, Brown runs leading early-stage venture capital firm, Greentree Investment Company, which provides growth capital to some of Africa’s “most exciting” tech start-ups.

“Greentree has invested in start-ups in various sectors including financial technology (fintech), media, software as a service (SaaS), agri-tech, manufacturing, e-commerce, health tech, and edutech, making it one of west Africa’s leading venture capital firms. The total value of the Greentree portfolio is almost \$80 million,” said Brown.



**Dr Ola Brown: “My ambition is to build a successful air ambulance service right across Africa.”**

**Below: Sick and pre-term babies can be transferred in the service’s baby pod.**

**Far left: Flying Doctors Nigeria is one of the first air ambulance companies to establish an emergency transport unit.**



If that’s not enough to keep her busy, she has also published various books, including *Fixing Healthcare in Nigeria*, writes articles for various medical journals, and is an international speaker – even taking to the stage for the UN and the World Economic Forum.

I asked Brown just how she is able to juggle all this work?

“I plan. I plan. I plan,” she said. “Being in the business of saving lives and getting feedback from patients we have helped live longer is a labour of love. It’s a sacrifice, and it changes your lifestyle completely. However, it has helped me plan my life away from work better than it used to be.

“I barely realise I am so busy as people get to remind me how busy I am by showing so much concern. When I am not overseeing the operational and administrative activities of the business, I watch business videos and a lot of documentaries. I have tons of business videos and business books I actually find very useful, especially for relaxation purposes. And, if all these are done, I ensure I get at least six hours of sleep.”

Brown, who is also a member of the American

College of Emergency Physicians, adds that she is forever excited to see Nigeria climb the global ranks in the healthcare system.

“I look forward to seeing us rank better in the world healthcare systems following the lists published by the World Health Organisation,” she explained. “Nigeria has been reported to have one of the world’s worst healthcare systems, ranking 187th out of 190 countries, so, I want this to change as soon as possible.”



Brown makes sure she helps other women around the world looking to achieve their ambitions through various platforms.

“I sit on the board of the professional women’s network (Lagos chapter) and I also share lessons and blogging on my social media as almost a million followers on LinkedIn and 60,000 followers (about 30,000 women) on Twitter will benefit from these lessons,” she said.

“As a board member of one of Nigeria’s most successful venture capital funds, I often share lessons with the women in our ecosystem and all our portfolio companies. This will have a trickle-

down effect to other women, especially those in technology.

“I often record webinars for some of the Nigerian entrepreneurs, which will showcase some of the lessons and initiatives learnt over the years, and I share lessons on my weekly television show, which focuses on business/finance and entrepreneurship.”

The company offers corporate social responsibility initiatives, including providing free nursing training to a number of Nigerian women, and providing grants and cash prizes to promising medical students.

Brown said that as Flying Doctors Nigeria scales globally it will be recruiting new people.

“Currently, we are working on partnerships with multiple airlines to enable the transport of patients globally from areas with a lesser level of care to more specialist centres,” she said. “This will improve our innovative emergency transport unit to a global standard, making healthcare access available to all.

“My job allows me to combine my passion for business with saving lives. Now my ambition is to build a successful air ambulance service right across Africa.”

# RWANDA AIMS FOR MEDEVAC CAPABILITY

Rwanda has moved a step closer to gaining an aerial medical evacuation capability, writes Alan Dron.

The US federal business opportunities website has reported a request for proposals (RFP) to provide two Cessna Grand Caravan EX aircraft to the central African nation.

The RFP calls for the aircraft to be procured by the US Government for transfer to Rwanda under the foreign military sales (FMS) programme.

The primary role of the aircraft will be carrying out medevac duties on what is described as 'rapidly evolving peacekeeping operations', but they will also be required to handle light transport duties for both passengers and cargo.



With these multiple roles in mind, the aircraft must be easily and quickly reconfigurable.

The aircraft will be used primarily for United Nations international peacekeeping operations in the Central African Republic, Sudan and South Sudan.

The RFP anticipates awarding a contract by June 30 2020. The first aircraft should be delivered to Rwanda by June 2021. An annual utilisation rate of 1,200 hours per aircraft per year is expected.

The aircraft are required to carry almost 1,600kg in



**Versatile:**  
The aircraft must be easily and quickly reconfigurable.

payload, or up to 11 passengers and two crew. Alternatively, they will carry two patient care units, with a four-position intercom system to support medevac communication between the two flight crew and medical staff. They must have a short take-off and landing capability, operating into rough airstrips shorter than 760 metres.

A standard range of 830km and ferry range of 1,700km is required.

The winning contractor must also supply training for four pilots and two maintenance personnel, which

will include a flight-training device (an aircraft simulator, but without the motion provided by a full-flight simulator). The equipment will be used for simulated instrument and instrument flight rules/visual flight rules (IFR/VFR) training for the Rwanda Air Force.

Local commentators in Rwanda have speculated that the aircraft could be used for combat missions, but the RFP gives no indication that the aircraft could be converted to the Cessna AC208 Combat Caravan configuration.

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**Anuradha Deenapanray et Vincent Chappard** sont allés à la rencontre du nouveau président de l'ONG Aviation Sans Frontières (ASF), Gérard Feldzer qui souhaite avant tout concilier l'aviation et l'humanitaire.



Une mission d'ASF contre la faim.

PHOTO: ZEPPELIN

## UNE PASSERELLE ENTRE L'AVIATION ET L'HUMANITAIRE

**A**viation Sans Frontières semble être en filigrane du parcours de Gérard Feldzer. Il débuta par le voyage d'un avion léger français à Entebbe puis participa à des missions en Somalie, au Mozambique, au Honduras avec, à chaque fois les mêmes émotions.

« Je ne remerciais jamais assez Aviation Sans Frontières de m'avoir à ce point ouvert les yeux. Il est nécessaire de donner un sens à sa vie et élargir son champ de vision sinon cela ne vaut pas le coup », avoue-t-il en toute sincérité et avec sa passion de gosse pour l'aviation qu'il vit au quotidien depuis des décennies.

Celui qui a failli être astronaute, vole entre ciel et terre avec toujours une pensée pour les plus démunis, soutenue par une équipe dynamique et dévouée. Home des airs lucide, Gérard Feldzer, souhaite revenir aux fondamentaux à la tête d'ASF. Sa stratégie s'articule autour de trois axes. Il s'agit d'abord de poursuivre les missions avions avec un service davantage de proximité. Cette transition passera par l'usage d'avions plus petits. « Cela nous permettra d'avoir plus d'autonomie et d'opérer avec des coûts moindres. »

Depuis avril, l'ONG opère des vols en RDC à la demande du

Service aérien d'aide humanitaire des Nations unies (UNHAS). ASF a pu envoyer plus d'une tonne de matériel médical au Sénégal grâce à la générosité d'Oncopole de Toulouse en février dernier. Le matériel a été récupéré par des bénévoles avant d'être stocké dans les locaux de la fondation Airbus pour ensuite être acheminé par le nouvel A330neo d'Air Sénégal.

La deuxième composante de son plan consiste à rechercher des solutions de livraison par drones et de bénéficier de champs expérimentation. Il existe de multiples initiatives en Afrique avec notamment Redline, Zipline ou le Parcelcopter de DHL.

Des taxis autonomes sont aussi en plein essor. « Il s'agit de devenir l'Amazon de l'humanitaire. » Un groupe de travail est en place pour trouver des financements afin d'effectuer le transport de personnes par ces moyens de transport futuriste d'ici 2025.

Gérard Feldzer souhaite aussi lancer « les ailes de la vie », des ateliers de formation-insertion pour les jeunes au travers des métiers de l'aérien.

En parallèle, il projette de mener une action en faveur de l'environnement pour compenser les émissions de carbone de l'aviation à travers notamment un programme comme

« A tree for you » en partenariat avec Air France et la DGAC. L'objectif est de planter 30 millions d'arbres par an.

ASF continue de se mobiliser pour lever des fonds via des campagnes de solidarité, dans la rue et sur les réseaux sociaux pour financer ses projets. Comme le disait à juste titre l'un des fondateurs de l'ONG, « nous ne soignons pas, nous ne guérissons pas mais nous sommes un acteur essentiel de la chaîne humanitaire internationale ».



### Un passionné d'aviation et humaniste

Gérard Feldzer est un pilote de ligne.

Il débuta sa carrière au sein de la compagnie STA en Algérie en 1973.

Il intégra ensuite Air France à la Postale de nuit.

Il vola successivement sur Caravelle, B707, B747, avant d'être commandant de bord instructeur sur A310, A340, A330.

Gérard Feldzer est également titulaire de nombreux records du monde sur ULM, avion et ballon.

Il est à l'origine de nombreuses associations: Jonathan, « les ailes de la ville », « Carwatt » et Zebunet qui soutient les paysans du Sud avec 17000 animaux dans 7 pays (dont Madagascar) via le micro-crédit.

### SUMMARY

## FELDZER'S MISSION TO STRENGTHEN LINKS

The newly appointed president of Aviation Sans Frontières (ASF), Gérard Feldzer, has one major aim – to enhance the links between the industry and humanitarianism.

Airline pilot Feldzer's career began when he ferried a French light aircraft to the Ugandan city of Entebbe, subsequently joining missions to Somalia, Mozambique and Honduras. His 'day job' included flying Sud Aviation Caravelles, Boeing B707s and B747s, before becoming a captain/instructor on Airbus A310s, A340s and A330s.

"I cannot thank ASF enough for having opened my eyes so much. For me, it's necessary to give meaning to this life – and expand one's field of vision – otherwise it's simply not worth it," he said.

Recently, the non-governmental organisation (NGO) has been operating flights to the DRC at the request of the UN Humanitarian Air Service (UNHAS), while it was also able to coordinate the delivery of medical equipment to Senegal, thanks to the generosity of Toulouse University-based Oncopole, which coordinates cancer research in the city.

The equipment was collected by volunteers in France before being stored at an Airbus warehouse and finally transported by Air Senegal's brand-new Airbus A330neo.

Feldzer also wants to examine drone delivery initiatives in Africa and to work with existing operators, including Redline, Zipline and DHL's Parcelcopter.

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## \$1.8bn Russian fighter deal for Algeria

*A \$1.8 billion order for 30 Russian aircraft will take Algeria's fighter fleet numbers up to 74 – sufficient for six squadrons.*

**Jon Lake**  
*reports.*

**A**lgeria's chief of staff of the Air Force, Major General Hamid Boumaiza, signed for the supply of 14 Mikoyan MiG-29M/M2 and 16 Sukhoi Su-30MKa fighters at the 2019 MAKS Moscow Aerospace Exhibition. The MiG-29M/M2s will replace the survivors of about 56 first generation MiG-29s purchased from Belarus, Russia and the Ukraine from 1999-2005. These aircraft originally equipped four squadrons of the 3ème Escadre de Défense Aérienne at Bou Sfer, Tindouf, Ouarghla and Bechar.

However, today only the 193rd Squadron at Bou Sfer remains, and it is due to retire its MiGs this year.

An earlier attempt to replace the first generation MiG-29 failed when Algeria rejected a batch of 34 MiG-29SMTs after 15 had been received because they were based on old used airframes rather than new-build aircraft, as stipulated in the contract. The rejected airframes were then put into Russian service.

The MiG-29M (and two seat MiG-29M2) is an improved version of the MiG-29, with a lighter airframe, improved RD-33MK engines, increased internal fuel, an in-flight refuelling probe, and improved avionics and a full glass cockpit. It has a new infrared search-and-track (IRST) system with TV and laser channels, integrated with a new helmet-mounted target designation system. Forty-six have been supplied to Egypt.

The Su-30MKa is a variant of the tandem-seat, multi-role, two-seat Su-30MK, manufactured by Moscow's JSC Irkut Corporation.

There are two families of Su-30, manufactured by competing factories within the United Aircraft Corporation, which also owns the Sukhoi Design Bureau: the JSC Irkut Corporation Komsomolsk-on-Amur Aircraft Plant (KnAAPO) and the Irkut Corporation.

The Irkut-built Su-30s include the Su-30MKI, Su-30MKM, and Su-30SM for India, Malaysia, and Russia respectively, as well as Algeria's Su-30MKa.

These aircraft feature canard foreplanes, Lyulka-Saturn AL-31FP turbofan engines with thrust-vectoring nozzles, and a long-range NIIP N011M Bars passive electronically scanned array (PESA) radar, capable of tracking multiple airborne targets and targeting four simultaneously.

The Su-30MKa is sometimes referred to as the Su-30MKI(A) in official Sukhoi documentation. It is broadly based on the Indian Su-30MKI, but has a secure datalink allowing it to exchange data with the Algerian Air Force's Yak-130 advanced trainers and light-attack aircraft.

The Su-30MKI's Israeli avionics and systems were replaced by Russian, French and South African alternatives. Thus, the aircraft uses a Thales Damocles laser designator pod and Navflir and other avionics equipment and displays manufactured by the Thales Group and Sagem.

Russia supplies some replacement equipment, including the electronic warfare (EW) system, the optical-location system (OLS) and some cockpit equipment.

SAAB Avionics of South Africa provides the aircraft's MAW-300 missile approach warning system (MAWS), the RWS-50 RWR and laser warning sensor (LWS).



Algeria's Su-30MKAs were ordered in batches from 2006. The first batch of 28 were delivered between December 2007 and November 2009, with pairs of aircraft being transported to Algeria on board Antonov An-124 cargo aircraft. They were assembled in country by specialists from Irkut (IAZ) and then flown by Russian test pilots.

Algerian pilots were trained at Zhukhovskii, near Moscow (where two of the Algerian Su-30MKIs were temporarily based).

Test and evaluation trials began at Oum El-Bouaki Airfield in November 2008, when the first 12 aircraft had been delivered to Algeria. From 2009, the aircraft began to re-equip the 12e Escadre de Defense Aerieenne (12th Air Defence Wing), which eventually had single Su-30MKa squadrons at Ain Beida, Ouargla, Tamanrasset, and Reggan.

The first four aircraft were delivered in a two-tone camouflage scheme, and may have been designated Su-30MKa(R) or Su-30MKR, perhaps indicating a reconnaissance and electronic warfare commitment. A further batch of 16 Su-30MKa was agreed in April 2010, these aircraft being supplied in place of 34 Mi-29SMTs, which Algeria was unhappy with and refused to accept. This took the Algerian Su-30MKa force to 44 aircraft. ■

*The Leonardo C-27J Spartan is about to enter full operational service with two new African air force operators. Jon Lake reports.*



On the tarmac: Two C-27Js are now flying in Zambian Air Force colours and full service entry is imminent.

PICTURE: AUSTIN FERREIRA.

## SPARTANS BOOST ZAMBIA AND KENYA

**A** Kenyan Air Force C-27J Spartan aircraft was photographed taking part in a flying display in Italy, hosted by manufacturer Leonardo, on September 21-22, while a Zambian Air Force C-27J was seen taking off from Lanseria International Airport in South Africa on August 21 2019.

These aircraft will join four Royal Moroccan Air Force C-27Js, delivered from 2012, and two C-27Js delivered to the Chadian Air Force in 2013 and 2014, for operations in Africa.

The Zambian Government ordered two C-27Js in 2015. The first of these made its maiden flight in December 2018, and the second followed later that month.

The procurement of the C-27J followed a number of acquisitions of Chinese military aircraft, including 10 Shenyang F-6A (MiG-19) fighters, 16 Hongdu JL-8 and six L-15 armed jet trainers, seven Harbin Z-9 helicopters, eight Harbin Y-12-II and Y-12-4 19-seat utility transport aircraft, and two Xian MA60 64-seat turboprop airliners.

The new C-27Js will provide Zambia with a new tactical transport capability and will supplement the Y-12-II, Y-12-4 and MA-60. They will be assigned to No9 Air Transport Support Command at Lusaka/Kenneth Kaunda International airport.

The Kenya Air Force ordered three new C-27J Spartan transport aircraft in late 2017, and news of the contract emerged in late June 2018 when Kenyan treasury secretary, Henry Rotich, revealed the previously undisclosed acquisition of two or three C-27Js and an undisclosed

number of AgustaWestland AW139 helicopters in a report submitted to the parliamentary public accounts committee.

It transpired that Kenya had taken out a 10-year, Sh20 billion (\$198 million) loan for the three aircraft from Italy's Unicredit SpA on December 11 2017, with repayments due to start on June 11 2019.

Kenya's new Spartans are expected to replace four de Havilland Canada DHC-5D Buffalos, which equip a transport squadron at Moi Air Base, Mombasa, alongside three de Havilland Canada DHC-8-103s.

It has been reported that the Kenyan C-27Js will be the first to be equipped with a new GATM-compatible avionics suite that provides full compliance with new civil aviation regulations.

There have also been reports that these aircraft will receive unspecified modifications intended to make them more efficient and cost-effective, although speculation that they would be fitted with winglets proved to be mistaken, even though such winglets (part of whose structure has been produced using an additive layer manufacturing – or 3D printing – technique) have been flown on a demonstrator aircraft in Italy. The winglets demonstrated “improved hot-and-high runway performance, increased payload, range and endurance, and reduced operating costs”.



The Spartan was developed from the Alenia Aermacchi G.222 (known as the C-27A in US and Afghan service).

It differs from the earlier aircraft in that it has a fully digital MIL-STD-1553 avionics architecture, an updated cargo compartment, and is fitted with Rolls-Royce AE 2100D2A engines and six-bladed Dowty propellers, similar to those fitted to the C-130J Super Hercules.

These reportedly give 30% lower operating costs than the original G.222 with much improved performance, including a 15% faster cruising speed and a 35% increase in range.

The Spartan can carry a maximum payload of up to 11.5 tonnes, including up to 60 troops or 46 paratroopers, or 36 stretchers and six attendants.

The C-27J fills a similar requirement to the rival Airbus (CASA) C295, but is more expensive to purchase, and is reported to have rather higher operating and through-life costs, burning as much as 60% more fuel per flying hour. However, the C-27J was designed to meet a military requirement for a tactical transport, and is well adapted to military loads and missions, offering more power and higher performance, and has a cabin cross-section that allows small vehicles to be carried, whereas the C295 has a more slender fuselage, better adapted to carrying passengers.

While 11 C-27Js have been ordered by four African operators, the C295 has been ordered by seven African air forces, with a total of 54 aircraft.

The recent development of C-27J gunship and surveillance variants, together with its ability to operate from the most rudimentary airstrips, in extreme environmental conditions, may increase the type's appeal in the African market. ■

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Low profile: The H3 Defence Solutions Icarus-X at the Dubai Airshow.

PICTURE: ALAN WARNES.



## ICARUS-X CARAVAN SET TO TAKE OFF IN EAST AFRICA

*Belgium's H3 Defence Solutions was showing off its Cessna 208 Caravan demonstrator – dubbed Icarus-X – at the Dubai Airshow in mid-November.*

**Alan Warnes** explains why the aircraft is very much a wolf in sheep's clothing.

Civilian-registered, the Icarus-X has what looks like a cargo pod underneath to house radar and other electronic systems. However, the hard point could give it away.

There is a capability of having four, but these can be taken off and the electro optical/infrared (EO/IR) turret lowers up and down into the aircraft on a gimbal when required.

It's a "Jack of all trades aircraft", according to Ralph de Gier, H3 Solutions CEO. "It is basically a Cessna Caravan with a full reconnaissance sensor suite on it to cover the three domains – sensor, radar and radio frequency (RF) systems like signals intelligence (SIGINT), communications intelligence (COMINT), or even active electronic warfare (EW) systems like jammers."

□□□□□

There is also a combat capability with four separate seven-tube launchers mounted on the hard points and any combination of unguided and guided rockets.

De Gier continued: "The military use the latter for precision but they are 20 times as expensive as unguided; if you just want to scare off people, or fire into a group of militants, unguided will do fine."

For the launch customer in east Africa, de Gier has integrated the Thales laser-guided rocket (LGR) but he

stressed: "We are free to integrate any system for a customer, as long as it stays out of international traffic in arms regulations (ITAR)."

While de Gier, who writes the software for the mission system, is proposing Thales rockets, anything from there on is a customer preference. FN Herstal machine gun pods and Nextar 20mm cannons, as well as guided and unguided bombs, are all possibilities.

"It's a fully integrated system so all the sensors work together and the pilot and operator can use a Thales Avionics Scorpion clip-on helmet-mounted display (HMD) for cueing and operating the weapons."

Test-firing of the strike capabilities cannot be done in Belgium, so that will happen in east Africa in March. He declined to say which country was involved.

"It is a complete programme, but the customer wants to fully understand the aircraft's capabilities," he explained.

□□□□□

The first aircraft was due to be delivered as *African Aerospace* was going to press. There will be another in mid-2020 and a third, possibly by the end of the year.

"The one in mid-2020 is expected to be fully armed; this capability is currently in the last phase of its development and we hope to present the aircraft at the Farnborough International Airshow in the UK," said the CEO.

A closer inspection shows the Cessna 208 has a retractable Hensfoldt Argos IIHD EO/IR system, which the launch customer has acquired. It could easily be a L3 Wescam CMX-15, or CMX-20, which are ITAR-free.

Two rocket launchers and two machine gun pods can be mounted on the wing's four hard points. The pilot, wearing the Scorpion HMD, has the ability to fire the weapons.

For guided rockets, the sensor operator in the rear can slew the EO/IR turret on to the target and send the imagery to the pilot, who can watch it on the middle Garmin display before firing.

For maritime patrol operations, the Seaspray 7300 or 7500 radars are the main options, but de Gier is open to integrating any other systems. ■

*Late last year, H3 Grob Aircraft completed the delivery of a first batch of Grob G 120TPs to the Ethiopian Air Force. As African Aerospace was going to press, a second batch was expected to be delivered to fulfil the EAF's requirement for 12 aircraft. Alan Warnes reports.*

The Ethiopian deal, concluded after years of negotiation, marks Grob's first entry into Africa. However, it hopes that this will be followed by several more on the continent over the coming months.

The turboprop Grobs have replaced Ethiopia's surviving SF 260TPs, delivered in 1988.

A computer-based training system and flight training devices are also part of the deal, while a pilot evaluation selection system (PSES) could be added later.

Ishan Sahgal, H3 Grob's new chief operating officer said: "We signed the contract in June 2019 and deliveries started in August. The first batch was completed in September."

□□□□□

A hand-over ceremony was delayed by several days because of the crash of an Ethiopian Air Force Sukhoi Su-27 on October 11. Reports from Ethiopia claim the pilot also flew the Grob G 120TP, but H3 Grob would only confirm six instructor pilots and 12 technicians were trained at its facility near Munich.

The first deliveries saw EAF pilots sitting in the rear seat, which meant there was no ferry tank.

Thomas Reinert, Grob's test and chief instructor pilot, said: "We stopped overnight in Crete, then Aquabar in Jordan, then to Yenbo, Saudi Arabia and Sudan to Debre Zeit. It would have been quicker to fly over Egypt but, due to flight restrictions in their airspace, we opted to go on a longer route."

While the aircraft have been flown to Ethiopia's main operating base at Debre Zeit, they will eventually be relocated to Dire Dawa, where the air force's flying training facility is based.

The EAF formerly used turboprop SF 260s for



Customer friendly: The G 120TPs have replaced Ethiopia's tired SF 260TPs.

PICTURE: ALAN WARNES.

# Grob lands African 'first' with delivery to Ethiopia

ab initio training, which led into the Aero L-39C for advanced jet training before progressing to the Sukhoi Su-27 Flankers.

Now the G 120TPs have replaced the tired SF 260TPs, while six L-39Cs are set to be upgraded with the Genesys interactive display unit (IDU) 680 system already fitted into the Grob trainers.

Reinert added: "This will mean a seamless transition to the L-39Cs, thus minimising the time to convert to the new trainer. They might be a different aircraft, but the environment to punch buttons etc will minimise the time transition from Grob to L-39.

"There is no other aircraft in this class with equipment like that – the glass cockpit is a complete unit, which houses the processors where you just connect up the sensors.

"Years ago there were many boxes and line-replaceable units (LRUs) around the aircraft, but

now the IDUs are so compact and small that they can be fitted in small training aircraft."

The EAF has a pre-selection course that could eventually be replaced by H3 Grob's PSES. The fully computerised system utilises a combination of methods to test candidates on basic pilot skills, operational competencies, and psychological factors.



It is designed to be a complete package, which eliminates the need for traditional pen and paper aptitude tests by converting the function of these into practical tasks, as well as integrating the use of simulation functions in the PSES dome.

It allows for no testing-based bias, which could occur in traditional screening methods. Reinert, a former Tornado pilot with the Luftwaffe added:

"This could reduce an assessment that would take up to a year in some air forces, to just two-and-a-half days!"

Sahgal, who was appointed COO in July after a company restructure, said: "It's a new method of assessment, helping to reduce the attrition rate and save time and money."

The 184th Grob 120TP is now being built, which isn't bad for an aircraft only launched in 2013.

The turboprop has been an astounding success, which has not surprised the company's president and chief sales officer, Karl Suernrohr. "We designed, developed and delivered what the international military flying market wanted, something to keep pace with the new generation of fighters," he said.

"We developed the G 120TP so it would work with computerised training systems and, so far, we have sold 175 aircraft in seven years." ■

*A type certificate has been granted for the South African/Brazilian Denel V3E A-Darter infrared homing short-range air-to-air missile (SRAAM), marking the conclusion of the missile's development, qualification and certification programme. Jon Lake reports.*

## Adaptable A-Darter homes in on its first production orders



**Ready to fire: Denel's A-Darter missile on the wingtip launch rail of a Saab Gripen fighter.**

**T**wo type certificates were formally handed over during a ceremony in Brasilia, Brazil, late last year. South Africa's Armscor simultaneously handed over certificates and the A-Darter (Agile Darter) data pack to Denel Dynamics and the Brazilian Air Force's Department of Aerospace Science and Technology (DCTA).

The award of a type certificate by the South African Air Force's (SAAF's) Directorate Systems Integrity and the Brazilian Institute for Industrial Development and Co-ordination demonstrates that A-Darter meets the operational, technical, logistical, industrial and safety requirements of both organisations and marks a major milestone for the missile.

The end of development and type certification is expected to lead to the first production orders for the missile to equip Brazilian F-39E/F Gripen and SAAF Gripen C/D fighter jets.

The A-Darter has already been integrated, qualified, and cleared on the SAAF's Saab JAS39 Gripen C/D fighters, and it is ultimately expected to replace the Diehl IRIS-T air-to-air missile, which was acquired for the Gripens as a stop-gap weapon to allow them to provide air defence for the 2010 Soccer World Cup.

The Brazilian Air Force will now work with Saab to integrate the missile with its own F-39E/F Gripen (Gripen E/F) fighters.

The A-Darter is not just a Gripen weapon; it is designed to support integration on to fourth-generation and older generation fighter aircraft.

Initial applications are expected to include the SAAF's BAE Hawk Mk 120 lead-in fighter trainers, as well as the Brazilian Air Force's Northrop F-5BR (F-5E/F) fighters and Leonardo A-1M (AMX) ground-attack aircraft.

Other exports are likely to follow. In 2015, for example, the Pakistan Air Force listed the A-Darter as a high off-bore

sight (HOBS) AAM option for the Block-III version of the JF-17 Thunder.

The A-Darter is a fifth-generation SRAAM that was conceived as a state-of-the-art, international traffic in arms regulations (ITAR)-free, wingtip-mounted weapon, with lock-on after launch (LOAL) capabilities. It was intended to provide a viable alternative to weapons like the AIM-9X, IRIS-T, ASRAAM and R73 (AA-11 'Archer').

The missile weighs 93kg, has a length of 2.98m, a diameter of 16.6cm, and a wingspan of 48.8cm across the tail fins. It uses thrust vectoring and body-lift for high-angle-of-attack agility, manoeuvring at up to 100G.

The large look-area allowed by the wide-angle seeker and the agility of the airframe means A-Darter can be used in HOBS helmet-designated firings.

The A-Darter is also capable of making long-range intercepts beyond infrared (IR) detection range using the missile's lock-on-after-launch capability, while the streamlined wingless airframe design generates low aerodynamic drag, allowing it to reach ranges beyond those of traditional short-range missiles.



Development of the A-Darter began in 1995, initially under South African auspices, with Denel Dynamics (formerly Kentron) as the contractor. Brazilian companies Mectron (later SIATT), Avibras, Opto Eletrônica and Atech joined the programme in 2006 after the Brazilian Government invested \$52 million in the technology, through a contract between the Brazilian Air Force and ARMSCOR.

Prototype missile rounds were sent to Saab AB to begin the integration of the missile on the Saab JAS 39 Gripen. Ground-seeker tests were concluded in January 2010, while trajectory guidance and agility flight-tests were performed in February 2010. Captive flight-trials ended a month later. The first successful in-flight launch of an A-Darter from a Gripen was achieved on June 17 2010.

The missile entered the qualification phase in March 2012 and several test firings were carried out from a Gripen at Denel's Overberg Test Range.

In December 2012, the Brazilian Air Force commissioned Denel to build a factory in São José dos Campos. This was originally intended to be ready for production by the end of 2013.

In March 2015, the SAAF ordered an undisclosed number of missiles, and Denel planned to deliver training missiles to the SAAF in late 2017, with the final set of operational A-Darters following in Q1 2020.

After some delays, Denel Dynamics completed the formal qualification review of the A-Darter in August 2019, leading to the award of type certification. ■



Deadly: A Royal Moroccan Air Force Lockheed Martin F-16C carrying Mk 82 500lb bombs underwing. The September 2019 \$209 million package included 5,810 of these weapons.



## US APPROVES EVEN MORE FIREPOWER FOR MOROCCO

The US State Department has approved yet another possible foreign military sale (FMS) to Morocco – this time for 36 AH-64E Apache Guardian helicopters at an estimated price of \$4.25 billion.

The announcement was made on November 2019 and the deal includes 24 firm orders and 12 options.

Morocco placed a series of FMS contracts with the USA last year.

In March, the US Defence Security Cooperation Agency (DSCA) announced the approval of two contracts, covering the acquisition of 25 new-build Block 72 Lockheed Martin F-16C/Ds and the upgrade of 23 surviving Block 52 F-16C/Ds to the same standard as F-16Vs.

With a value of \$4.8 billion, this was reported as being the largest military deal in the history of the Royal Moroccan Armed Forces.

Then, in September, the US State Department cleared Morocco to purchase two packages of weapons.

The first, worth \$209 million, included 5,810 500lb Mk 82-1 bombs, 300 2,000lb Mk 84-4 bombs, fuzes, joint direct attack munitions (JDAM) tail kits, and guidance kits to convert Mk 84 bombs to GBU-10 Paveway II laser-guided bombs, Mk 82s to GBU-12 LGBs, and Mk 83s to GBU-16 laser-guided bombs.



The second package, worth \$776 million, covered the supply of 400 M220A2 TOW launchers and 2,401 TOW 2A radio frequency missiles, with 28 more missiles for testing. This package presaged the most recent deal. The Moroccan AH-64Es will be equipped with the M-

TADS/PNVS sight, consisting of an AN/ASQ-170 modernised target acquisition and designation sight and an AN/AAR-11 modernised pilot night vision sensor, as well as manned-unmanned teaming-2 (MUMT-2) equipment that will allow control of unmanned air vehicles.

The Apaches will be supplied with 18 AN/APG-78 fire control radars and a large package of weapons, including AGM-114R and AGM-114L Hellfire missiles, M261 and M299 rocket launchers and advanced precision kill weapon system (APKWS) guided rockets, as well as AIM-92H Stinger air-to-air missiles.

These arms packages are intended to improve the security of what Washington described as “a major non-NATO ally that continues to be an important force for political stability and economic progress in north Africa.” ■

## SENEGAL MOVES TOWARDS FIXED-WING COMBAT CAPABILITIES

The Senegal Air Force is due to become the first operator of the new Aero Vodochody L-39NG advanced trainer and light-attack aircraft, ending a period when it had no fixed-wing jet capability.

Though the Armée de l’Air Sénégalaise has employed fixed-wing attack aircraft in the past, it has not done so since ageing Fouga Magisters and SOCATA Rallye 235A Guerrier armed trainers gave way to armed Mil Mi-24/35 and Mi-17 helicopters.

Now, however, the new Senegalese aircraft will be delivered in light-attack configuration with five underwing hardpoints, though the intention is that they will primarily serve in the training role.

General Joseph Mamadou Diop, chief of the Armée de l’Air Sénégalaise, recently flew the Aero L-39NG prototype with Aero Vodochody test pilot, Vladimír Továrek.

A second aircraft has now joined the flight-test programme, and certification for the advanced and basic trainer role is expected in the third quarter of this year and for light-attack a year later.

Senegal has tried before to create a fixed-wing option. In April 2013, for example, the Brazilian



Test flight: General Joseph Mamadou Diop (second right) made an hour-long flight with Aero Vodochody test pilot Vladimír Továrek (left).

minister of defence revealed that Senegal had become the fourth African nation to have ordered the Super Tucano, requesting three aircraft. However, that contract was never finalised.

Then, in 2016, it was reported that four KAI KT-1 Woongbi turboprop trainers were on order as part of the army’s ‘horizon 2025 project’. They were due to be in service in 2018 but, again, this does not seem to have happened.

In 2006, Senegal received two Socata TB 30 Epsilon trainers donated by France. Four more followed in 2014, and two in April 2019.

Another was delivered to serve as a maintenance trainer.

The Epsilon has tandem seats but is powered by a Lycoming O-540 piston engine – more typical of elementary trainers, which prefer side-by-side seating.

They serve with the Air Force School at Thies, 70km from Dakar, and were used to train 15 pilots between 2014 and 2019, establishing a new cadre for the air force and accumulating more than 3,300 flying hours in the process.

There are plans to train Togolese and Nigerian pilots in Senegal. ■

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*Helicopters are providing a vital lifeline for most north African air forces.*

*Alan Warnes has been looking at the fleets.*

# THE NORTHERN FLIGHTS

**A**lgeria, Egypt, Libya, Morocco and Tunisia all have their fair share of troubles at the moment and helicopters can work in a number of roles supporting their air forces and paramilitaries.

The countries have acquired hardware from both Russia and the USA and helicopter roles include tactical transport, attack, scouting, search-and-rescue (SAR), anti-surface warfare (ASW), border control and surveillance.

In the past few years, attack helicopters have been at the top of most shopping lists.

Algeria has issues, not just with insurgents, but also its western neighbour, Morocco, and has acquired 42 Mi-28NE Night Hunters from Russia to add to its ageing Mi-24 Super Hinds. Egypt has hedged its bets and bought 35 AH-64D/E Apaches from the US and, just in case it falls foul of US sanctions, as it has in the past, 46 Kamov 52 Hokums from Russia.

Fractured Libya is now bogged down in a civil war, with the two air forces relying on old helicopters from Gaddafi's Libyan Arab Air Force, or donations from allied countries.

Morocco has generally looked to France to fulfil its needs against the Polisario in the southern Sahara, or Algeria, but has now reportedly opted for 24 US AH-64E Apaches to cover both fronts.

Tunisia, after years of little investment, has opted to acquire ex-US Army OH-58D Kiowa Warriors to fulfil an armed reconnaissance role along its leaky borders to stop jihadi groups from attacking civilians, as well as tourists.

It is against this backdrop that north Africa operates a variety of helicopters.



## ALGERIA

In recent years, the Algerian Air Force's primary attack helicopter has been the Mi-24 Super Hind Mk III, a much-upgraded variant developed by South Africa's Advanced Technologies and Engineering (ATE) company.

Algeria ordered 30, converted from its existing Mi-24D and Mi-24V Hind airframes, with the first entering service in 2001. Some older Mi-24Ds and Mi-24Vs may also still remain from the 20 Mi-24Ds delivered from 1980, while 28 Mi-24Vs arrived from Ukraine between 1999-2001.

A contract for 42 Mi-28NE Night Hunters was signed in December 2013. The first two were delivered on May 26, 2016 and all of them, including several dual-control Mi-28UBs, have been delivered now.

In February 2014, six Mi-26T2 Halos were ordered and delivered by June 2015, and in August 2015 Russia's ARMS-TASS news agency announced that eight more would follow. All 12 are believed to be in service at Biskra.

Various Mi-8/17/17 Hips remain operational while, over the

last decade, newer Mi-171Sh aircraft have been delivered.

The initial Mi-171Sh order was for 42. On February 28, 2014, ARMS-TASS reported that Rostvertol would upgrade all 39 surviving Mi-171Sh at the Ulan Ude Aviation Plant, to include modern weapon integration.

A small number of AS350B Ecureuil and AS355F Ecureuil 2, were in service since around 1995, but are believed to have been withdrawn after the first nine new AS355Ns arrived in 2005. The total number in service is unknown, but they are based at Ech Cheliff/Chlef and Boufarik.

A squadron of Mi-2s, used for pilot training since 1988, was replaced by eight PZL W-3A Sokols in 2014. The order included a further 15 options, but it is uncertain if these have been taken up yet.

Another training squadron uses 12 AW119Ke Koala Mk IIs, delivered in 2013/14.

Agusta Westland (now Leonardo Helicopters) has gained a good foothold in Algeria in recent years and supplied two AW101 Srs 641s in December 2013 to the air force to serve with a VIP/VVIP unit at Boufarik. For search-and-rescue missions, at least 12 AW139s were delivered in 2013/14.

**Searching the way: An Algerian Navy Super Lynx Mk 130, from the 560 SAR Squadron at El Bouleida, lands at Palma de Mallorca during an exercise.**

PICTURE: SPANISH EJERCITO DEL AIRE

Continued on Page 50

# HELICOPTERS



CONTINUED FROM PAGE 49

Three Bell 412EPs, delivered to Khalifa Airways in 2004, were transferred to the air force when the airline went bankrupt. They are believed to be still in service, based at Boufarik and Cheraga.

Three Kamov Ka-32S Helix-Ds entered service from 1994 and two Ka-32T Helix-Cs from around 1995. At least one of each is thought to be still operational at Boufarik, with detachments to Bou Sfer and El Bouleida/Blida.

The Leonardo Helicopters grip can clearly be seen in the paramilitary sector: The Gendarmerie operates 15 AW109LUHs that fly alongside around 13 Eurocopter AS555Ns. The Police Nationale took delivery of 12 AW109LUHs during 2011-2012 and the Direction Générale de la Protection Civile operates AW139s from Alger/Houari Boumediene Dar el Beida – six were delivered from February 2012.

The sole Navy unit is based at El Boulaida/Blida. It operates six SAR-configured AW101-610s, which had been ordered in July 2007; three AW139s, delivered from February 2015; four Super Lynx Mk 130s that followed from September 2010; and six Super Lynx Mk 140s from December 2015.

An AW101 detachment is maintained at Annaba/El Mellah.

## EGYPT

**The Egyptian Air Force and Air Defence Command has relied on the AH-64 Apache for its attack helicopter requirements for more than 20 years, initially ordering 24 AH-64As in 1990, then adding 12 more in 1994, with deliveries from March 1994 onwards.**

By late 2006, 35 had been upgraded to AH-64Ds, while 10 new AH-64Ds were ordered in December 2012. The latter were manufactured as AH-64E Apache Guardians and delivered in November 2014.

The Apaches are operated by one squadron at Wadi al Jandali Al Qatamiyah (Al Khatamia) and another at Abu Hammad/Az Zagaziq.

Most of the 46 Kamov Ka-52s (known locally as the Nile) ordered in 2015 have now been delivered – with the 30th being seen in June 2019.

The Russians are still keen to sell up to 15 of the naval Ka-52K Katrans to equip the two Egyptian Mistral-class large landing ships but it is unclear if this has progressed. The vessels, built by France for Russia, were sanctioned in the wake of Russia's annexation of Crimea in 2014. The deal was stopped and Egypt acquired them.

Large numbers of SA342 Gazelles entered service from 1976, with at least 90 known deliveries.



Two AW139s, configured primarily to undertake SAR tasks, were delivered in 2012.

Five Westland Commando Mk 1s entered service from 1974, followed by 19 Mk 2Bs and four Mk 2Es. The surviving examples are primarily based at Alexandria/Borg-el-Arab (El Nhoza), although the Mk 1 is also operated from Cairo East-Almaza, along with a single ex-US Navy VH-3A Sea King that was delivered in 2007.

The helicopters are in need of an upgrade but, should they become available on the market, there would be a lot of would-be suitors for these low-houred workhorses.

In 1981, 15 Italian-built CH-47Cs, previously destined for Iran, were delivered. Between 2002 and 2005, 12 were upgraded to CH-47Ds and the other three retired. Additionally, four new-build CH-47Ds were supplied in 1999-2000. All 16 are based at Kom Awshim.

Ten SH-2G(E) Seasprites, upgraded from ex-US Navy SH-2Fs, were delivered between October 1997 and 1999. Three more followed from June 1998 and a fourth after 1993. From late 2008, 10 began a mid-life update, which included a digital automatic flight control system, FLIR Systems Safire infrared imager, a GE Aviation health and usage monitoring system (HUMS), and an AN/ALE-47 counter-measures dispensing system. This programme was apparently abandoned by 2011 after four had been completed. At least four were based at Alexandria/Borg-el-Arab (El Nhoza) in July 2016.

More than 100 Mi-8s were delivered to Egypt from 1968, followed by 20 Mi-17-1Vs in 1999-2000. It is unclear how many

**The Nile file: The Egyptian Air Force is believed to have taken delivery of all the 42 KA-52 Niles it ordered, but there is still no news on an order for 15 naval-equipped Ka-52Ks.**

PICTURE: ALAN WARNES.

Mi-8/17s remain in service, but in December 2015 it was announced that Russian Helicopters would overhaul and maintain 41 Mi-8Ts and three Mi-17-1Vs, while also training personnel so that the Helwan Factory for Developed Industries could, in future, undertake this work itself.

Ten S-70A-21 Black Hawks (two in VIP configuration) were delivered from 1990, and these are based at Cairo East-Almaza.

The UAE donated three AS350B3 and six AS550C3 in 2017.

## LIBYA

**Ongoing internal conflict in Libya has meant that it is very difficult to determine exactly what military air assets remain operational in the country.**

There are now two rival factions operating military aircraft – the Government of National Accord (GNA), based in Tripoli, and General Khalifa Haftar's Libyan National Army (LNA) Air Force in Tobruk.

Both sides initially managed to keep a small number of helicopters airworthy by cannibalising others, with the LNA known to have taken over three Mi-35s and two Mi-8s. In 2014-2015, support from Egypt included the donation of eight (or possibly 10) surplus Mi-8Ts to the LNA.

In April 2015, four Mi-24/35Ps were donated to the LNAAF by the UAE, which had bought them initially from Belarus for Egypt. At least one LNAAF Mi-24P was involved in supporting troops fighting GNA forces outside Tripoli in July.

In April 2019, the GNA was operating



a sole ex-Sudan Air Force Mi-24V, but the LNA claimed to have shot down a helicopter from the opposition, which could have been that aircraft.

The GNA also had an ex Libyan Air Force Mi-24P but it was grounded due to a lack of spares. Today, unmanned aerial systems are tending to take over the air attack role by both sides.

## MOROCCO

**While the Royal Moroccan Air Force (RMAF) has modernised its transport and fighter force fleets over the past decade, little has been invested in new helicopters.**

However, that looks set to change, with reports emerging from Tangiers in August that the air force is set to acquire 24 AH-64E Apache gunships.

It comes after Turkish Aerospace had offered its T129 attack and reconnaissance (ATAK) helicopter and Bell was promoting a combined AH-1Z Viper/UH-1Y Venom package. Purchasing the Apaches will considerably boost the close air support needs of the army, which currently relies on a few armed SA342L Gazelles and SA330J Pumas.

The multi-million dollar deal comes after the RMAF's rotary-winged fleet had suffered decades of neglect.

The ageing Agusta Bell (now Leonardo) AB205s, purchased in the late-60s, continue to soldier on in light transport duties, which also have a secondary role – locust eradication. For this, several are fitted with spray bars to dispense insecticide on the swarms of locusts that infest many parts of Morocco.

The surviving civilian-based SA-330Fs,

purchased in the 70s, have been upgraded with composite blades in recent years and are now known as SA330Js.

A fleet of seven elderly CH-47C Chinooks was grounded in the late 2000s, but a need for heavy-lift helicopters to support the army's operations in the Sahara against the Polisario didn't go away. Pumas plugged the gap for a while, but the RMAF opted to acquire three ex-US Army Boeing CH-47Ds in 2011 that were delivered in August 2015.

Survivors of 24 Aerospatiale (now Airbus Helicopters) SA342L Gazelles, acquired in 1980s, continue to support the light communications role, as well as fulfilling a light-attack capability, which sees them regularly deployed to the Western Sahara when required.

Most of the helicopters are based at Rabat-Sale, which is also the home to the Ecole de Spécialisation Hélicoptères (ESH, Helicopter School) flying the AB 206 Jet Ranger.

A very old mix of French helicopters make up the bulk of the Moroccan Gendarmerie's aviation fleet. They comprise an impressive 13 different types, including AS332L2 Super Puma (1), AS355F1 Ecureuil (2), AS365N Dauphin II (4), AS550 A2 Fennec (3), SA315B Lama (1), SA316B Alouette III (1), SA330L Puma (5), SA342K Gazelle (3) and SE3130 Alouette IIs (4).

Over the past decade, they have been joined by the Airbus EC135T2 (3), EC145 (2) and EC225LP Super Puma (1). Two US built Sikorsky S-70A-26 Blackhawks were acquired in 1991.

All the helicopters operate in various

**US link: The Royal Moroccan Air Force acquired three ex-US Army CH-47Ds in 2011 that were subsequently overhauled in the US before delivery to Rabat-Sale in August 2015.**

PICTURE: ALAN WARNES.

roles but the bulk is for transport of troops, surveillance or SAR/medical evacuation.

The AS332L2, SA330L and SA342s are based at Sale, while the remainder are located at Rabat-Souissi. There are also helicopter detachments at Agadir, Errachidia, Nador, Oujda, Tangier and Marrakech.

The Moroccan Navy operates three AS565MB Panthers, based at Casablanca, that were delivered in 2004 and operate from the Navy's two Floréal-class frigates, *Hassan II* and *Mohammed V*.

Two twin-engine Bell 412EPs were ordered in 2018 but it is unclear what their role will be and Bell did not respond when asked.

## TUNISIA

**The latest rotary-wing acquisitions by the Tunisian Air Force are 18 ex-US Army OH-58D Kiowa Warriors, which equip a squadron at Gabes.**

The first four arrived in the country on February 4, 2017. Weapons for them include AGM-114R Hellfire missiles, M124 miniguns, rocket launchers and advanced precision kill weapon system (APKWS) laser-guided rockets.

The country is also acquiring up to 16 UH-60M Black Hawks, with eight known to have been delivered – four in June 2017 and four in June 2018. These deliveries will finally see the retirement of the old Sikorsky HH-3Es.

A total of 18 Agusta-Bell 205As and a small number of Bell 205A-1s, delivered from 1980, are based at Bizerte/La Karouba-Sidi Ahmed, Gafsa and Sfax/Thyna. There is also a detachment at Monastir.

From 1973, deliveries of 25 UH-1H Iroquois began, plus at least 12 ex-US Army examples after 1991; the most recent being two in 2008 and one in 2010. Two UH-1Ns also entered service from 1975.

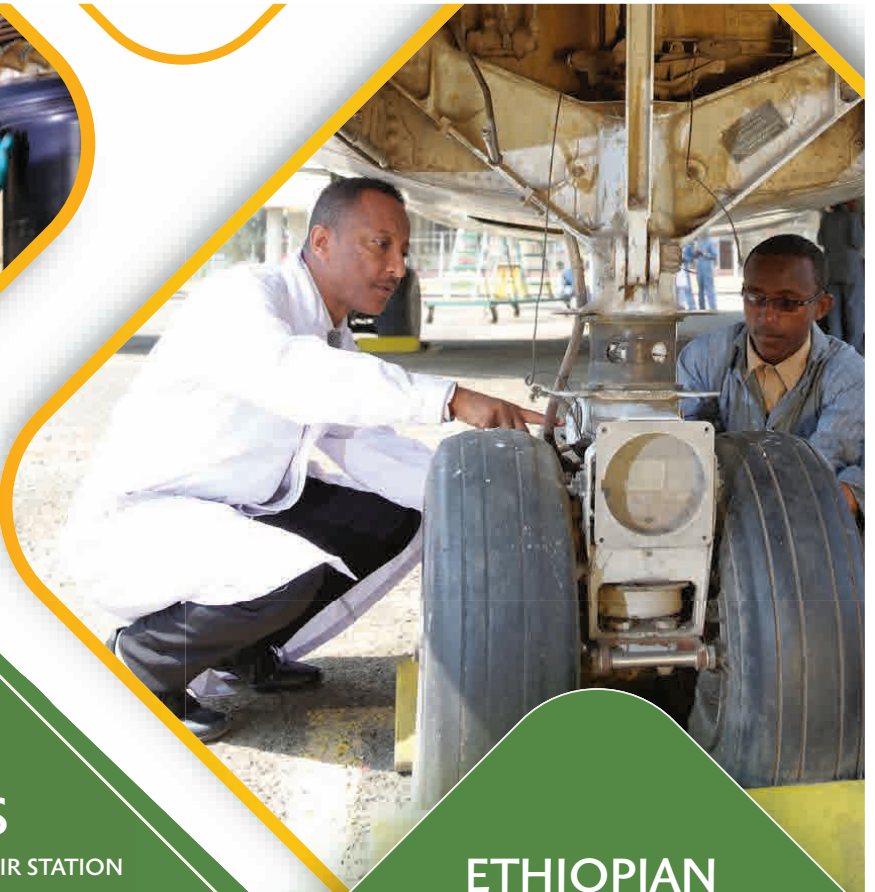
An unknown number of AB412s were delivered from 1992 and are thought to remain current.

The Alouette III entered service around 1964 and some were still operational in mid-2016.

Deliveries of AS350Bs began in 1983, with at least six confirmed in service with a squadron at Sfax/Thyna.

Five upgraded and refurbished ex-French Army SA342L1 Gazelles, acquired from French company Aerotech, entered service from 2011.

Around six AS350Bs were delivered to the gendarmerie from 1983, plus an unknown number of AS355Fs. ■



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# HELICOPTERS

ROUND-UP BY JON LAKE

## BETTER LATE THAN NEVER – KENYA'S CAYUSE WARRIORS

Delivery of six MD530F Cayuse Warrior scout and light-attack helicopters to the Kenya Defence Forces (KDF) was expected to be taking place as *African Aerospace* was going to press.

Delivery had previously been planned for between April and August.

The delayed delivery is, to some extent, the product of MD Helicopters' success. The company has struggled to cope with a surge of orders from military customers, which have included 60 MD530Fs for Afghanistan and six MD530Gs for Lebanon, in addition to the Kenyan order.

This has forced the company to delay the certification of its new 2.5 tonne MD6XX civil helicopter by at least two years.

MDHI has also now been awarded a firm fixed-price contract by the US Army Contracting Command-Redstone Arsenal on behalf of the Multinational Aviation Special Project Office (MASPO). This will see the company providing logistics support, field service representatives, and both US-based and locally based pilot and maintainer training. The contract will provide support for the KDF Cayuse Warriors at Laikipia Air Base, Kenya.



The KDF originally requested the MD530Fs in 2017, and a possible foreign military sales (FMS) deal for up to 12 helicopters, valued at \$253 million, was approved by the State Department. The US Defense Security Cooperation Agency (DCSA) delivered the required certification notifying Congress of this possible sale on May 1, 2017.

The new aircraft will replace some of the Kenyan Army's ageing MD 500 helicopters, which serve with the 50th Air Cavalry Battalion, and which have been heavily committed to operations against al-Shabaab and in support of the African Union Mission in Somalia (AMISOM).

The Kenyan helicopters will be powered by the 650shp Rolls-Royce 250-C30 turbine engine, and will incorporate an advanced, all-digital glass cockpit, and Harris RF-7850A and Rockwell Collins HF-9000D tactical radios.

They feature 62mm ballistic armour protection and a ballistically tolerant crashworthy fuel system. They are also fitted with an FN Herstal weapons management system and a DillonAero mission-configurable armament system (MCAS), with a DillonAero fixed-forward sighting system.

Weapons options include FN Herstal .50 calibre (12.7mm) HMP 400 machine gun pods and M260 seven-round rocket pods. ■

*Spot the difference: A more pointed nose and a T-tail are immediate differentiating characteristics of the MD530F, compared to the original OH-6, seen behind, which has a rounded nose and a V-tail.*



Staying back: Brownout is a real issue for V-22 operations in dusty and sandy conditions, as is the downdraft from the large rotors. Personnel keep well back from a hovering Osprey.

## MARINES REHEARSE A DUST-UP IN SENEGAL

The US Marines exercised their V-22 Ospreys during a quick-response force, full-mission profile rehearsal in Thiés, Senegal. The special purpose marine air-ground taskforce crisis response – Africa (SPMAGTF-CR-AF) is deployed to conduct crisis response and theatre-security operations and promote regional stability by conducting military-to-military training exercises throughout Europe and Africa.

It activated the cooperative security location (CSL) to test forward-staging crisis response forces and rehearse reacting to notional crises

The CSL, capable of hosting about 200 marines, is located at Dakar-Ouakam Air Base. It meets all the operational, logistical and maintenance requirements necessary to sustain SPMAGTF-CR-AF with its aircraft, aviators, maintainers, infantrymen, medical personnel, logistics assets and supporting units.

The rehearsal increased the marines' ability to conduct link-up procedures, on scene and in-route trauma stabilisation, and offensive and defensive operations. ■



Double trouble: Two Bell Boeing MV-22B Ospreys from VMM-261 at a forward operating location in Senegal.



Take off: Bell Boeing MV-22B Ospreys take off from a landing zone.

# HELICOPTERS



*Maintenance makes helicopters more expensive to fly than to buy, but they are indispensable in numerous civil roles. Chuck Grieve reviews some of the main players in the African rotary-wing MRO business.*

## BLADE RUNNERS



**H**elicopter MRO is beginning to look attractive again to investors as the civil rotary-wing market shows signs of recovery after several flat years.

Among others, US-based First Aviation Services (FAS) believes the time is ripe: it recently extended its capabilities by acquiring a rotor blade specialist and a component manufacturer.

An FAS spokesman was quoted as saying industry trends suggest that “we are at a trough in the civilian helicopter operations market.” There is “a significant opportunity” with medium-lift aircraft, such as the Sikorsky UH-60 Black Hawk, moving into the civilian market.



MRO makes up an important slice of the overall helicopter market. The complexity of helicopters leads to unique wear-and-tear issues, especially for dynamic components, resulting in more frequent shop visits.

On the upside, the interchangeability of parts and ease of upgrade of most major systems are primary reasons why a third of the global fleet is more than 25 years old.

Among manufacturers, Airbus Helicopters is maintaining its market lead with almost 50% of the global civil market and a robust order book. Keeping this brand loyalty is a strong incentive to support customers through the life of their assets.

In west Africa, its MRO partners, members of a global network of approved maintenance centres, are strategically located near its customers’ facilities. They include NHV Group (Ghana and Ivory Coast), International Aircraft Services (Ivory Coast), Heliconia Industries SARL (Morocco and Senegal), Tunisavia (Tunisia) – the first company in Africa to be EASA Part 145 certified for helicopters – and Helwan Factory for Developed Industries (HFDI) in Cairo.

In South Africa, the manufacturer is represented by Airbus South Africa and Denel Aeronautics.

Denel has established itself in the business of maintenance, modifications,

**Left: Engineers at Airbus Helicopters SA carry out checks on a rotor assembly.**

**Right: A civil-specification Super Puma used for training technicians in an indoor hangar in Marignane, France.**

upgrades and conversions on both civil and military rotary-wing aircraft. It supports Airbus, Bell, Leonardo, Rooivalk and Russian Helicopters types.

From its base near Johannesburg, Denel Aeronautics Component MRO offers depot-level maintenance, repair and overhaul of mechanical, avionics, electrical, oxygen and composite components, and repair and calibration of ground support and test equipment (GS & TE).



Denel opened the first servicing and repair base in Africa for Russian Helicopters in 2013 to support the growing number of Russian rotorcraft operating in the sub-Saharan region.

Currently, a new MRO centre for Russian Helicopters is opening near Cairo, primarily to service the Egyptian Air Force’s Mi-8T and Mi-17-1V types. Company officials say they expect the facility at the HFDI site to receive certification later this year.

Mi-8/17s accounted for 400 of more than 770 Russian-made helicopters operating in Africa in 2018.

Certification of the HFDI service centre will open up “new opportunities for expanding cooperation with local partners”, said Viktor Klavov, Russian Helicopters director for international cooperation and regional policy. It may

### MRO keeps ageing fleet flying

**Africa has 5% of the global fleet of 21,950 helicopters, according to an International Bureau of Aviation (IBA) survey of 2018.**

**Fleet growth remains sluggish after declining between 2008 and 2017 from 6.4% to 1.8% annually.**

**With fewer new deliveries, operators rely on maintenance and upgrades to keep their in-service aircraft operational. It is estimated that about a third of today’s rotary-wing fleet has been flying for more than 25 years.**

**However, Africa and the Middle East (MEA) appears to be bucking a trend identified by Honeywell in its 21st annual forecast of turbine-powered civil helicopter sales. While the total of 4,000 new aircraft expected to be delivered from 2019-2023 is down five points on the 2018 forecast, for MEA it is up the same amount – the second-highest new purchase rate globally.**

**The Honeywell survey found medium twin-engine models dominated new purchases at 70%, followed by light single-engine models.**





**Getting it right: Technicians at an Airbus Helicopters' Paris site repair main rotor blades.**

extend its services to the newer Mi-17V-5 variant and the Mi-38 in due course.

Helisota, the helicopter MRO business of FL Technics, provides an alternative for Mi operators in several African countries. It also serves Robinson and Airbus types.

The long-established Heli-Union Group responded recently to "booming demand" from civil and military operators by rebranding its operational support services, including MRO, under the name HeliSynergy. The company's current activity in Africa is centred on Cameroon, Gabon and Tanzania.

Pierre Le Gall, HeliSynergy deputy managing director in charge of MRO, said the future of this sector "depends progressively upon specific services, such as major inspection, heavy maintenance and periodic inspection.

"Being able to provide an excellent heavy maintenance service is no longer sufficient. Our observation shows that more and more our clients demand a fully integrated service."

HeliSynergy engineers undertake maintenance, personalisation, repair and modification of heavy, medium and light helicopters up to and including G-checks. They have extensive expertise with design organisations approvals (DOA) for installation or modifications of various avionics and mission equipment.

Airwork, the New Zealand-based global aviation provider, has been in

Africa since 2005, operating from a base at Pretoria's Wonderboom Airport.

Regional account manager, Donovan Foley, said the company's in-continent MRO capability is currently geared toward its own fleet; he sends any third-party work to the home base.

"Our head office is a designated Airbus service centre with dynamic component overhaul and repair capabilities," said Foley.



Airwork is one of only a handful of options for operators of Airbus Helicopters with this requirement, as the service is not yet available in Africa.

Similarly, Africa lacks the facilities and approvals for overhaul of the popular Honeywell LTS101 turboshaft engine, work that Airwork – a Honeywell MRO partner – also handles at its main base.

Airwork holds the only supplementary type certificate (STC) for the BK117-850D2, which it developed. The company says this upgrade of the MBB-Kawasaki B117 (now the Airbus Helicopters H145) is an economical way to meet category A/class 1 requirements that enhance the performance, safety and capabilities of the helicopter.

This is an important consideration in Africa, said Foley, where "older aircraft with their analogue cockpits are better suited to the conditions." ■

## SOMMAIRE

### LA MRO FAIT TOURNER LES PALES VIEILLISSANTES

**Chuck Grieve** passe en revue les principaux opérateurs MRO en Afrique.

Le secteur de la MRO des hélicoptères commence de nouveau à être attractif pour les investisseurs alors que le marché montre des signes de reprise après plusieurs années de stagnation. Les exploitants comptent en effet sur la maintenance et les "upgrades" pour garder leurs hélicoptères en service. Environ un tiers de la flotte vole depuis plus de 25 ans.

L'Afrique compte aujourd'hui 5% de la flotte mondiale des 21 950 hélicoptères selon une enquête IBA de 2018. La croissance de celle-ci reste toutefois lente.

First Aviation Services (FAS) estime qu'il est temps d'augmenter ses capacités. Selon son porte-parole, "nous sommes aux creux du marché" et il existe une opportunité pour des hélicoptères comme le Sikorsky UH-60 Black Hawk.



Parmi les constructeurs, Airbus Helicopters maintient son avance sur le marché avec près de 50% du marché civil mondial et un carnet de commandes robuste (source ADS Reports). Cette fidélité pousse ses clients à confier le support de leurs hélicoptères au constructeur européen. En Afrique de l'Ouest, il bénéficie des partenaires MRO comme NHV Group (Ghana et Côte d'Ivoire), International Aircraft Services (Côte d'Ivoire), Heliconia Industries SARL (Maroc et Sénégal), Tunisavia (Tunisie) et HFDI (Égypte). Airbus Helicopters est représenté en Afrique du Sud par Airbus South Africa et Denel Aeronautics.

Denel est bien établi dans le secteur de la MRO des hélicoptères et prend en charge la flotte d'Airbus Helicopters, Bell, Leonardo, Rooivalk. Elle ouvrit sa première base MRO en Afrique en 2013 pour la maintenance des hélicoptères russes et soutenir cette flotte opérant dans la région subsaharienne.

Un nouveau centre MRO dédié aux hélicoptères russes va commencer ses opérations près du Caire pour répondre aux besoins de l'armée de l'air égyptienne.

Helisota, la filiale MRO de FL Technics, offre également une alternative de maintenance à plusieurs pays africains. Le groupe Heli-Union a réorganisé ses activités MRO sous le nom de HeliSynergy. L'opérateur néo-zélandais Airwork, un partenaire MRO de Honeywell, est basé en Afrique depuis 2005 sur l'aéroport Wonderboom de Pretoria. ■

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Les participants de l'AGA de l'AASA à l'île de La Réunion.



## IL EST TEMPS D'ÉCRIRE UN NOUVEAU CHAPITRE DE NOTRE HISTOIRE

L'AASA (Airlines Association of Southern Africa) a tenu son assemblée générale à l'île de La Réunion avec l'hospitalité d'Air Austral et de la région. Un reportage de Vincent Chappard.

Le thème de cette AGA, « What's stopping us ? », reflète la situation paradoxale en Afrique. Alors que l'IATA s'attend à un bénéfice de 28 milliards de dollars au niveau mondial, les compagnies du continent devraient perdre encore 300 millions de dollars en 2019. C'est donc un remake de 2018. Seulement six compagnies sur 25 des pays de la SADC sont rentables.

Le directeur général de l'AASA, Chris Zweigenthal, n'est toujours pas convaincu que les dirigeants africains soient pleinement conscients de l'importance stratégique et des avantages de l'aviation. Les politiques incohérentes existant entre et au sein des États doivent être traitées.

Les autorités sud-africaines reconnaissent l'impact négatif de la réglementation des visas et des exigences en matière de certificat de naissance pour les mineurs sur le tourisme. Elles ont informé l'AASA de l'application d'une dérogation dans l'attente de l'adoption de la loi.

« C'est un soulagement et cela aidera l'Afrique du Sud à retrouver sa position compétitive en tant que destination

touristique attrayante », soutient Chris Zweigenthal.

La réapparition de la xénophobie (ou de l'afrophobie) en Afrique du Sud a été dévastatrice. L'AASA la condamne avec la plus grande fermeté.

Par ailleurs, les coûts restent trop élevés pour les compagnies. Les transactions sont effectuées en dollar (crédits, financement d'avions, MRO...). Le kérosène est 35% plus cher en moyenne par rapport aux prix moyens mondiaux.

« La tentative de l'Union africaine d'établir une zone de libre-échange dans un environnement douanier simplifié et sans visa constitue un point positif. Une fois pleinement mise en œuvre, le transport aérien, le commerce et le tourisme seront parmi les principaux piliers », affirme Chris Zweigenthal.



Les femmes et les jeunes revendiquent des droits égaux dans certaines sociétés encore largement patriarcales. L'AASA a signé un engagement pour soutenir cette lutte.

Le programme CORSIA est également une priorité. Dix pays africains, dont trois de la SADC, se sont portés volontaires.

« Notre industrie est sur la corde raide », rappelle le DG de l'AASA. « Nous devons éviter de faire une course au volume et avoir davantage de souplesse ».

Pour Zuks Ramasia, PDG par intérim de la SAA, le plus important est d'accorder mutuellement plus de liberté. « Nous pouvons faire beaucoup en travaillant dans des alliances ou des partenariats. C'est pour cela que la SAA fait partie de Star Alliance. »

Paul Steele de l'IATA souligne de son côté qu'il faut trouver les moyens d'améliorer la connectivité. Un équilibre doit se faire entre la collaboration et la concurrence entre les compagnies. La collaboration donne des résultats plus prometteurs. Selon lui, il faut bâtir une véritable alliance régionale pour nourrir les hubs de l'Afrique.

Chris Zweigenthal estime que les progrès sont lents. « Il est temps d'écrire un nouveau chapitre de notre histoire en bâtissant de nouveaux partenariats et d'alliances, et en créant de nouvelles opportunités. »

### SUMMARY

## THERE'S PROGRESS... BUT IT'S TOO SLOW

The French Indian Ocean island of Réunion was the location for the recent Airlines Association of Southern Africa (AASA) annual meeting, hosted by Air Austral.

The gathering – titled 'What's stopping us' – heard that while IATA expects global airline profits of around \$28 billion this year, companies in the region are expected to lose another \$300 million, with only six out of 25 in the Southern African Development Community (SADC) recording profits.

AASA MD, Chris Zweigenthal, still believes the leaders of countries in the region are not fully aware of the strategic importance and benefits of commercial aviation and that inconsistent policies between and within states must be addressed.

He added that progress was too slow. "It's time to write a new chapter in our history by

building new partnerships and alliances, thus creating new opportunities."

For instance, he pointed out, over-complex regulations and birth certificate requirements for children travelling on holiday to South Africa are now being tackled. He explained that this would help the country to regain its competitive position as an attractive tourist destination.

Another important issue is that many costs are still too high for airlines. "Transactions are paid in US dollars – credit, aircraft financing and MRO – and kerosene is on average 35% more costly than average world prices."

He concluded: "The attempt by the African Union to establish a free trade area in a simplified and visa-free customs environment is a positive development. Once fully implemented, air transport, trade and tourism will be among the major beneficiaries." ■

*African airlines amazed visitors to the Dubai Airshow in November with a raft of orders and the launch of a new airline. Alan Peaford reports.*

# Aviation revolution makes Africa the star of the show

**T**he biennial air show at Dubai has historically been the place where the Gulf's big carriers have placed eye-watering orders for aircraft.

African airlines may have had watering eyes in the past knowing that a good percentage of these aircraft could be heading west and dominating the international business across the continent.

But at this year's show there was something different happening. African carriers were starring at press events with the major OEMs, a sure sign that the promise of African aviation was finally being realised.

The Dubai show is the third largest in the world after Paris and Farnborough and attracts visitors and exhibitors from across the MENA region, as well as west Asia and the African continent.

And it was at the event that the Ghana Government finally made its plans for a national carrier public.



The aviation revolution that is happening on the continent, along with deregulation and investment into infrastructure and tourism, saw Ghana's Minister of Aviation, Joseph Kofi Adda, kick-starting a new national airline for the booming west African nation.

Signing a letter of intent (LoI) for three 787-900s from Boeing, Adda promised the state's golden share would be for just 10%, with the remaining 90% equity offered to domestic and international investors.

He promised no government interference. "I don't want us to be called a national carrier that smacks of government ownership. We are not even choosing a name for the airline, or deciding where the routes will go. That will be the job of the new management board," he said.

The first of the Dreamliners will be delivered to Accra in the first quarter this year and start flying on domestic and regional routes before stretching to US, Europe and "possibly Asia".

Adda also signed a LoI to buy "up to six" Dash 8-400s from De Havilland Canada. He said Ghana hoped to establish Accra as the aviation hub of west Africa.

Meanwhile, Air Senegal signed a memorandum of understanding (MoU) with Airbus for a firm order of eight A220-300 aircraft. The first two will be delivered in 2021, with two to follow each year after that.

Signing the order, Air Senegal CEO, Ibrahima Kane, said: "Eight years ago, we bought two A330 aircraft. One has been delivered and the next should arrive in December (see report, page 11). We are now adding eight A220s to our fleet.

"We considered these aircraft because of their versatility and reliability, and will use them to fly routes across west Africa and into Europe.

"In Africa we have had long and thin routes; we are now extending these and can fly Dakar to London and Dakar to Geneva. We believe this is the right aircraft for our existing routes and our future."

It wasn't just the airlines that had the chequebooks out. De Havilland Canada also announced the sale of three Dash 8-400 turboprops for the oil and gas operations of the Elin Group of Nigeria.

The first aircraft will be delivered this year and will be used to transport oil and gas personnel in and out of sometimes challenging airstrips in the Niger Delta.

The aircraft will be supported by Nigerian airline, Aero Contractors, in areas including maintenance, spare parts and logistics.

Aero Contractors has been operating various versions of the Dash 8 for almost 30 years.

"We are in the private charter transport services sector," said Dr Caroline Pritheesh, Elin Group's managing director. "We're moving on to improve the efficiency and transport services in international oil companies.

"The Dash 8-400 turboprop has been operating in Nigeria with other carriers and we have seen how this aircraft can support our diverse operational requirements."

Another Nigerian operation was also signing deals. Nigerian carrier, Air Peace, confirmed purchase rights for three additional E195-E2s, from an original contract, signed in April. Set to be the first E-Jets E2 operator in Africa, Air Peace's firm order is now for 13 E195-E2s with 17 purchase rights for the same model. The first delivery is scheduled for the second quarter of 2020.

Allen Onyema, Air Peace chairman and CEO, said: "The E195-E2 is the perfect aircraft to expand our operations in Africa and this new order is a further confirmation of our 'no-city-left-behind' initiative, which we shall continue to execute."

Air Peace's E195-E2s will be configured in a comfortable dual-class arrangement with 124 seats. The carrier operates more than 20 local, regional, and international routes and has strategic plans to expand them.



Meanwhile, Embraer also signed a firm order with Cairo-based CIAF Leasing for three E190 aircraft. The deal has a value of \$161.4 million at current list prices.

The three new aircraft will join CIAF's existing fleet of three E170s, two of which are on lease with Jasmin Airways, the other with Air Cairo. CIAF was also due to receive two E195s.

Dr Hassan Mohamed, chairman and CEO of CIAF Leasing said: "The three new E190s will be an excellent addition to our growing fleet of Embraer E-Jets. With a fleet of E170s, E190s, and E195s, we will have the flexibility to offer to both our wet and dry lease customers a service that fits their needs exactly."

All three aircraft will be delivered in the fourth quarter of 2020, in a new livery showing off CIAF's new visual identity.

In other signings at the show, north African carrier, EgyptAir, strengthened ties with Boeing by signing supply chain partnership agreements to give the Cairo-based flag-carrier global access to critical aircraft components.



The airline will receive landing gear exchange and overhaul support through the Boeing landing gear exchange programme, as well as parts for a quick engine change kit, which includes hardware and components used to efficiently build up a spare engine to service-ready condition.



At the same time, EgyptAir's MRO business (EGME) becomes an authorised provider of parts provisioning, engineering support and line maintenance service for Boeing's customers. EgyptAir also signed an MoU with GE for consultancy support to enable the airline's engineering division to improve the efficiency of its CM56-7B overhaul capabilities.

In another MRO deal, Kenya Airways renewed an agreement with Jordanian MRO provider,

Joramco, that will see the Amman-based MRO perform seven heavy checks and modifications on the carrier's 787 aircraft between January and September.

Jeff Wilkinson, Joramco's CEO, said: "During 2019, Joramco's committed team of experts have demonstrated their ability to provide quality base maintenance services on the Kenya Airways flagship 787 fleet. We are looking forward to developing a long-term partnership."

Sebastian Mikosz, Kenya Airways CEO, added: "We are delighted to further extend our co-operation with Joramco, having already inducted the B787 for out-of-phase checks in August 2019, as well as C-checks on two of our B737-800 aircraft."

"The cooperation opens an opportunity to leverage Joramco skills and capabilities as we further develop our MRO capability with a focus on the African region."

**Top left: Ghana's minister of Aviation Joseph Kofi Adda (right) and Boeing's Herb Wallen (second left) celebrate with Ghanaian colleagues.**

**Top right: From left Engineer Mostafa Ali El Din Emam, chairman of EGME, Captain Ahmed Adel, chairman of EgyptAir Group, and Ted Colbert, president and CEO of Boeing Global Services.**

**Above left: Air Senegal signs a memorandum of understanding (MoU) with Airbus for a firm order of eight A220-300 aircraft.**

**Above right: A first for Africa: Air Peace is bringing the E2 to the continent.**

Abderahmane Berthé: "The governance framework of the association has been redesigned to enhance efficiency and effectiveness."

# Africa in need of a C change...

...COOPERATION, CONNECTIVITY AND COMMITMENT

*The 51st African Airlines Association (AFRAA) annual general assembly, was hosted by Air Mauritius.*

*Anuradha Deenapanray Chappard reports.*

**M**ore than 400 delegates from across 60 countries and some 30 African airline CEOs attended AFRAA's annual assembly in Mauritius, sharing their views and experience on an evocative theme: 'Success in an integrated and interconnected Africa'.

Africa has a young and rapidly urbanising population of more than 1.2 billion and is among the fastest growing continents in the world. Yet, its aviation industry represents less than 3% of the global passenger traffic and less than 2% of global cargo.

Despite major challenges, the aviation industry is poised for tremendous growth as the booming middle-class demand for air travel constantly increases.

As governments from various African countries work to grow this industry, they bring opportunities for foreign investment, as well as economic growth and job creation. This sector can bring much-needed improvements to eradicate poverty.

The assembly heard how aviation was proving key to growth. Out of the countries with rapid growth in the aviation industry, Ethiopia and Kenya have proven determined to make air transport a primary focus on economic improvement.

In west Africa, the Senegalese authorities are making massive overhauls to boost the sector by making it a pillar of their economic and tourism development. Smaller countries like Mauritania are striving hard to strengthen their airlines.

North African countries – representing 40% of the continent's aviation market – are also investing massively in their national carriers' fleets and training, renovating and building airports, and giving incentives to investors.

But high taxes and charges, fluctuating oil prices, management weaknesses and governance still remain major hindrances to growth in various countries, the assembly heard.

In a joint press meeting, AFRAA secretary general, Abderahmane Berthé, Air Mauritius CEO, Somas Appavou, and Yvonne Manzi Makolo, RwandAir CEO, underlined the need for better cooperation and partnerships between African airlines to enhance connectivity and trigger and sustain growth.

In his report, Berthé noted that, in 2018, AFRAA member airlines expanded their networks on both intra-African and intercontinental routes. Six AFRAA member airlines launched a total of 23 new routes, connecting 14 intercontinental destinations and nine cities within the continent.

The AGA also heard that the potential for air traffic growth in Africa is significant and the removal of restrictions and non-physical barriers for the movement of people, goods, and trade, as well as the reduction of taxes and charges, are vital steps to reduce the cost of travel and promote the emergence of low-cost carriers.

As Berthé underlined in his opening speech: "The governance framework of the association has been redesigned to enhance efficiency and effectiveness."

Appavou said that a major paradigm shift is required to help African aviation achieve its true potential. "Improved collaboration among African airlines is probably the single and most urgent target we must set for ourselves because, alone, no African airline will successfully overcome the hurdles of scale and the high cost base that is holding back the African aviation industry."

The benefits of collaboration have been realised. Berthé said that, since 2011, the AFRAA joint fuel purchase project had enabled airlines to reduce fuel costs. There were also partnerships regarding MRO and cargo, he added.

In his keynote address, Alexandre de Juniac, IATA's CEO, called on governments and

## SOMMAIRE

## COOPÉRATION, CONNECTIVITÉ ET ENGAGEMENT

*Air Mauritius a accueilli la 51ème AGA de l'African Airlines Association (AFRAA). Un reportage d'Anuradha Deenapanray Chappard.*

Plus de 400 délégués de 60 pays et environ 30 PDG des compagnies aériennes africaines ont assisté à cet événement majeur pour échanger leurs points de vue et leur expérience sur un thème évocateur, « Le succès dans une Afrique intégrée et interconnectée ».

Qu'est-ce qui empêche l'Afrique de débloquer tout son potentiel ?

Les taxes et redevances élevées, les fluctuations du prix du pétrole, les faiblesses de la gestion et la gouvernance restent des obstacles majeurs à la croissance dans divers pays africains.

Lors d'une réunion de presse conjointe, le secrétaire général de l'AFRAA, Abderahmane Berthé, le DG d'Air Mauritius, Somas Appavou, et Yvonne Manzi Makolo, DG de Rwandair, ont souligné la nécessité d'améliorer la coopération et les partenariats entre les compagnies aériennes africaines afin d'améliorer la connectivité et générer et soutenir la croissance.

L'AGA a également noté que le potentiel de croissance du trafic aérien en Afrique était considérable et que la levée des restrictions et des obstacles non physiques à la circulation des personnes, des marchandises et des échanges, ainsi que la réduction des taxes et des redevances sont des étapes vitales à franchir pour la réduction des frais de voyage en Afrique et favoriser l'émergence de transporteurs à bas coûts.

□ □ □ □ □

Pour sa part Alexandre de Juniac, DG de l'IATA, a appelé les gouvernements et l'industrie en Afrique à se concentrer sur quatre priorités : la sécurité, le rapport compétitivité-coûts, l'ouverture du continent aux voyages et au commerce et la parité homme-femme, afin de permettre à l'aviation de contribuer au développement économique, social et durable. Il a ajouté qu'avec « un cadre fiscal et réglementaire approprié, les possibilités offertes par l'aviation pour améliorer la vie des gens sont énormes ».

32 États africains ont signé l'accord de création du marché unique du transport aérien africain (SAATM). L'IATA a appelé les gouvernements à libéraliser l'accès aux marchés intra-africains et à mettre en œuvre de manière urgente trois accords clés, à savoir la Zone de libre-échange continentale africaine, le Protocole de libre circulation de l'Union africaine et le SAATM.

L'AFRAA compte cinq nouvelles compagnies aériennes membres : Air Djibouti, Air Peace, Air Sénégal, Safarilink Aviation et Uganda National Airlines Company Ltd.

TAAG Angola accueillera la 52ème AGA qui se tiendra du 22 au 24 novembre 2020 à Luanda. ■



A study in concentration: Delegates listen closely at the AFRAA AGA.

industry in Africa to focus on four priorities: safety; cost-competitiveness; opening the continent to travel and trade; and gender diversity. These would allow aviation to drive economic and social development and enrich people's lives.

“As demand more than doubles over the next two decades, the critical role that aviation plays in Africa's economic and social development will grow in equal proportion,” he said, adding, “With the right tax and regulatory framework, the opportunities aviation creates to improve people's lives are tremendous.”

According to him, more states need to incorporate IATA's operational safety audit (IOSA) into their safety oversight systems.

Smaller operators should consider becoming IATA IOSA certified as it provides a valuable operational benchmark. “African states need to implement International Civil Aviation Organization (ICAO) standards and recommended practices in their regulations,” de Juniac underlined.

He added: “It is critical for governments to understand that every extra cost they add to the industry reduces aviation's effectiveness as a catalyst for development.”

According to IATA, African governments

must follow ICAO standards and recommended practices, taxes and charges, disclose hidden costs, such as taxes and fees, and eliminate taxes or cross-subsidies on international jet fuel.

Of course, the single African air transport market (SAATM) was central to many discussions, as 32 African states have signed the SAATM agreement.

IATA called on governments to liberalise intra-African access to markets and urgently implement three key agreements: the African continental free trade area to boost intra-African trade by eliminating import duties and non-tariff barriers; the African Union free movement protocol to ease severe visa restrictions; and the SAATM to open up intra-African air connectivity.

As de Juniac put it: “Why wait any longer to give airlines the freedom to do business and Africans the freedom to explore their own continent?”

AFRAA has also grown with five new member airlines – Air Djibouti, Air Peace, Air Senegal, Safarilink Aviation and Uganda National Airlines Company Ltd.

TAAG Angola will host the 52nd AGA to be held from November 22-24, 2020, in Luanda, Angola. ■

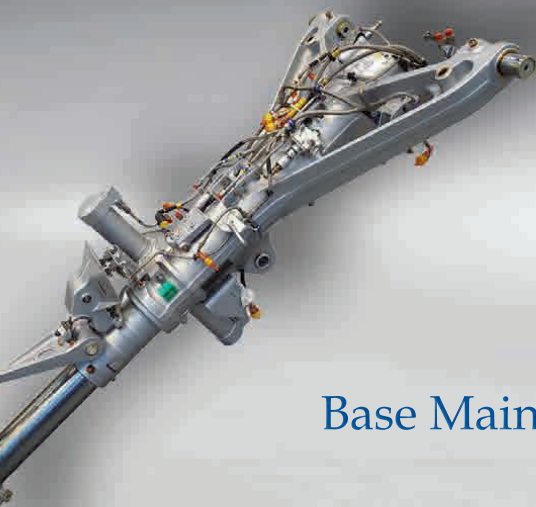


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**Bole in pole position:** The airport is a bustling aviation hub owing to its unique location in the middle of the east-west major trade lane.

# HOT HUBS

«La croissance des hubs du continent africain» – Page 65

*With new airports and terminal expansion projects on the rise across Africa, **Chloe Wilson** reports on how the competition is heating up in the race to become the continent's primary aviation gateway.*

It's no secret that Africa's aviation market is one with huge potential. The forecasts for the sector continue to be positive with the International Air Transport Association (IATA) projecting that Africa will be the fastest growing region to 2036 – 5.9% per annum – for a total market of 400 million passengers annually.

Challenges still abound but the forecast growth in passenger traffic is impressive. So, too, are the opportunities it brings for the continent's airport infrastructure and, particularly, for those destinations looking to align themselves as Africa's primary aviation hubs.

You only have to look at cities around the world with hub airports and their economic success to understand that the two go hand-in-hand. Take London, New York, Hong Kong, Istanbul, Dubai or Doha. They are all flourishing cities with strong economies and major air transport hubs. And now you can add the likes of Addis Ababa and Casablanca to that list.

Last year, data intelligence specialist, ForwardKeys, revealed that Addis Ababa had grown its volume of international transfer passengers to sub-Saharan Africa for five years in



The \$363m second terminal at Bole was opened in February 2019.

a row (2013-2017). It also highlighted that Bole Airport, which has been upgraded with a new terminal capable of handling up to 22 million passengers and costing \$345 million, had overtaken Dubai as the major transit hub for long-haul air traffic to and from Africa.

Getaneh Adera, director of Addis Ababa Bole International Airport, admitted that this is, in part, “thanks to the ever-expanding international routes of Ethiopian Airlines, which have now reached 123, including more than 60 to African cities”.

Meanwhile, a spokesperson for ForwardKeys revealed: “In the six months from August 2019 to January 2020, airline capacity across the continent looks like it will be up 8.4%.” He added: “Ethiopian Airlines, itself, is adding 9.2% in terms of capacity.”

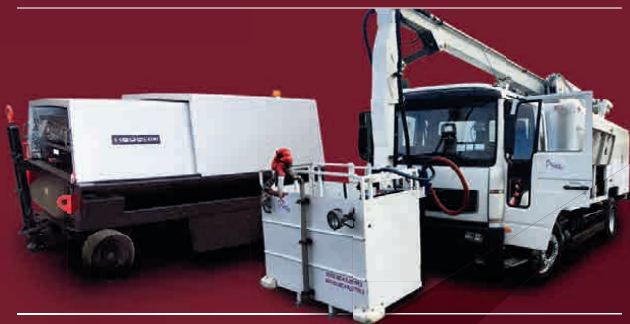
As the hub for Africa's largest flag-carrier, Bole already serves hundreds of flights each day. And, on July 17, the airport marked a daily record at its terminal with 310 flights and 29,528 passengers

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passing through its doors.

Much of Ethiopia's success is being attributed to a new-found confidence in the wake of reforms carried out by Prime Minister, Abiy Ahmed, since he took office in April 2018. These include signing a peace deal with Eritrea, a new e-visa policy introduced in June 2018 – which allows all international visitors to apply for a visa online – and the promise to open Ethiopia's markets to private investment.

Johannesburg's OR Tambo Airport remains Africa's biggest air transport hub in terms of capacity (it can handle 26 million passengers per year).

"Historically, South Africa has been the economic hub of Africa," according to Fundi Sithebe, Airports Company South Africa's (ACSA's) COO.

However, problems have been mounting for both the country's ailing economy and its flag-carrying airline.



South African Airways has struggled in recent years with a revolving door of CEOs. The airline's latest boss, Vuyani Jarana, resigned at the end of August, citing uncertainty with funding, slow decision-making processes and a lack of commitment from the government, resulting in the delay of a turnaround plan for the airline. And, with SAA decreasing its international seat capacity at OR Tambo Airport, Sithebe has also raised concerns over the lack of a "dominant airline" at the airport and the "real threat" of Johannesburg losing its leading hub status to airports in east and west Africa.

It is no longer just a threat. ForwardKeys' data shows that if you look at the total share of Africa's aviation traffic and total growth for the year, Addis Ababa is head and shoulders ahead of its competitors. It has an 11% share of traffic and 13.2% growth. Johannesburg, meanwhile, has 8% share and 0.1% growth.

In third place is Casablanca with 7% share and 4.4% growth, while Nairobi is also in a strong position with 6% share and 9.8% growth. In fifth place, Marrakech has a 5% share but an impressive 21.8% growth.

Still, OR Tambo isn't being knocked from its pole position without a fight. Various initiatives have been

**Up-and-coming: Kigali in Rwanda has a 1% share of air passenger traffic and is showing 7.4% annual growth.**



implemented recently to enhance the passenger experience, including smart security screening systems and engagement with the department of home affairs on increasing staffing levels at immigration and passport control, as well as a new long-term parking facility.

ACSA also announced in February 2019 that phase one of the construction of its Western Precinct development has commenced and is due for completion in 2020.



The airport group is reportedly spending R4.5 billion (\$305 million) in developing the new 180,000sqm precinct, which will incorporate offices, a hotel, retail space and conferencing facilities. It will house ACSA's corporate headquarters, as well as the South African Civil Aviation Authority.

The development is all part of ACSA's strategy to expand the airport's offering and drive new sources of growth for the entire region, in line with ambitious plans to become an airport city.

However, despite its remodelling, the airport now faces further



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## LA CROISSANCE DES HUBS DU CONTINENT AFRICAIN

**Chloe Wilson** nous montre que la course des aéroports pour devenir le hub de référence du continent s'accélère.

Ce n'est un secret pour personne, le transport aérien en Afrique offre un énorme potentiel. L'IATA prévoit que le continent aura la plus forte croissance (5,9% par an) avec un marché de 400 millions de passagers. Les défis restent nombreux surtout en matière d'infrastructures aéroportuaires alors que des aéroports cherchent à devenir les hubs en Afrique. Addis-Abeba et Casablanca sont en tête d'affiche.

En 2018, ForwardKeys révélait que la capitale éthiopienne avait augmenté son volume de passagers en correspondance internationale pour la cinquième année consécutive. Le nouveau terminal de l'aéroport international d'Addis-Abeba peut traiter jusqu'à 22 millions de passagers. Selon Getaneh Adera, son directeur, l'expansion constante d'Ethiopian Airlines a contribué à ces résultats de même qu'aux réformes apportées par le premier ministre, Abiy Ahmed et aux nouvelles procédures de visa.

□□□□

L'aéroport OR Tambo de Johannesburg reste le plus grand hub d'Afrique en termes de capacité (26 millions de passagers annuellement). « L'Afrique du Sud a été historiquement le centre économique de l'Afrique », soutient Fundi Sithebe, COO de l'ACSA. Cependant, les problèmes économiques du pays et de SAA persistent. L'ACSA devrait consacrer 305 millions de dollars au développement des infrastructures pour élargir son offre et créer de nouveaux relais de croissance.

Casablanca occupe la troisième place du podium. L'aéroport

international Mohammed V a un fort potentiel de croissance avec notamment l'essor de Royal Air Maroc. Le nouveau terminal 1 a porté sa capacité totale à 14 millions de passagers par an. L'aéroport de Marrakech-Ménara connaît aussi une augmentation impressionnante de 21,8% de son trafic.

Plusieurs aéroports affichent aussi une belle croissance : 7,4% pour Kigali, 16,2% pour Entebbe, 1,1% pour Abidjan et Dakar en légère décroissance.

□□□□

L'IATA a identifié le Rwanda parmi les 10 principaux marchés à la croissance la plus rapide au monde. Le président rwandais, Paul Kagame, a présenté le transport aérien comme l'un des éléments clés de la prospérité du pays. Un nouvel aéroport est actuellement en construction dans la province de Bugesera (25 kilomètres au sud de Kigali). L'aéroport international d'Entebbe fait également l'objet d'un important projet de modernisation et d'agrandissement.

L'aéroport international Jomo Kenyatta de Nairobi reste un hub majeur en Afrique de l'Est. Le Ghana a également des projets ambitieux après avoir ouvert en 2018, un nouveau terminal à l'aéroport international de Kotoka (Accra).

Le gouvernement du Nigéria a annoncé son intention d'investir 38 millions de dollars dans des travaux de réhabilitation de l'aéroport international Murtala Muhammed de Lagos. Il a enregistré huit millions de passagers ces trois dernières années selon le ministre de l'aviation, Hadii Sirika. ■

competition for low-cost and domestic traffic from nearby Lanseria Airport. The privately owned hub, which is also located in Gauteng Province, currently accommodates around 2.5 million passengers per annum. And, while most of Lanseria's passenger traffic is comprised of domestic travellers, the airport is looking to build its international traffic in line with becoming a regional hub.

In February last year, it began an extension programme, which will enable the airport to handle around five million passengers per annum.

Elsewhere on the continent, ForwardKeys' data shows exciting growth among other destinations, particularly in east Africa.

Kigali in Rwanda has a 1% share of air passenger traffic and is showing 7.4% growth, while neighbouring Entebbe, in Uganda, has a 1.4% share, but 16.2% growth.

Meanwhile, in west Africa, Ivory Coast's Abidjan has 1.8% share and 1.1% growth, while Dakar, in Senegal, has a 1.9% share but -0.8% growth.

IATA has already identified Rwanda as

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among the top 10 fastest-growing air passenger markets in the world, while Rwandan president, Paul Kagame, has highlighted aviation as one of the key elements of the country's future prosperity.

Attention has now turned to Rwanda's airport infrastructure to ensure it can keep pace with the anticipated growth in air passenger traffic. A new airport is currently under construction in Bugesera province, approximately 25km south of the Rwandan capital.

Although the completion date remains uncertain, once finished it will replace Kigali's existing international airport and is set to boost traffic to and from the region.

Entebbe International Airport is also undergoing a significant upgrade and expansion project as part of a 20-year national aviation masterplan, according to Uganda's Civil Aviation Authority (CAA) board chairman, Edward Mike Ndawula.

"We have quite a number of projects on the expansion of the airport and we are on schedule; the first phase of the expansion will be complete in May 2021," he said. The work will be carried out in three phases through to 2034.

In the meantime, to handle the growing number of business and leisure passengers

visiting the country, digital security firm, Gemalto, partnered with local partner, SCINTL, to boost capacity at Entebbe Airport, by installing e-kiosks at the airport.

Although Nairobi's Jomo Kenyatta International Airport remains a major hub for aviation activity in east Africa, it is overshadowed by Bole. However, following in Ethiopia's footsteps and to improve its positioning as a regional hub, the transport committee in Kenya's parliament now wants to place ownership of Jomo Kenyatta alongside the struggling Kenya Airways with the same aviation holding company.



In Ivory Coast, which Jetex president, Salem Youssef, has previously described as "west Africa's economic powerhouse", Felix Houphouët Boigny Abidjan International Airport is undergoing various modernisation and construction projects. It was named Africa's 'most improved' airport in Airports Council International (ACI) World's ASQ Awards in March 2019.

Meanwhile, Dakar's Blaise Diagne International Airport opened at the end of December 2017 following an investment of

around \$575 million and more than a decade of development and delays. Currently capable of accommodating up to three million passengers a year, a second phase of development will increase the site's capacity to 10 million passengers a year by 2035.

Having opened a new terminal in 2018, Ghana also has ambitious plans to develop Accra's Kotoka International Airport into west Africa's largest gateway.

Similarly, the Federal Government of Nigeria has revealed plans to invest \$38 million in rehabilitation works at Murtala Muhammed International Airport in Lagos. When the airport was built in 1979, it had an annual handling capacity of 300,000 passengers. However, in the last three years, the number of passengers has grown up to eight million, according to the minister of state for aviation, Hadii Sirika.

Casablanca's Mohammed V International Airport also has huge potential as an aviation hub, particularly with Royal Air Maroc growing its fleet and investing in Casablanca as its home hub.

The recent Terminal 1 extension project (which was inaugurated by King Mohammed VI at the beginning of last year) will increase the airport's overall capacity to 14 million passengers a year. ■



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Plenty to say: panellists (from left) Prosper Zo'o Minto'o, Zouhair Mohammed El Aoufir, Angela Gittens, Lorenzo Di Loreto, and Yaw Kwa Kwa.



# TIME TO GET SMART IN AFRICA

*The 28th Airports Council International (ACI) annual general assembly, conference and exhibition took place at the Kempinski Hotel in Accra, Ghana, in October. Chukwu Emeke was there.*

**T**he application of digital innovation and automation is a priority if African airports are to compete with their counterparts across the world.

So said Ghana's president, HE Nana Addo Dankwa Akufo-Addo, as he declared the ACI conference open.

Speaker after speaker and session after session at the week-long event followed the smart airports of the future theme.

Stakeholders deliberated on how digital transformation in the airport sector could offer innovative solutions to capacity, resource optimisation and passenger experience problems in Africa.

Could new technology and intelligent process help reduce threats while enhancing the seamless passenger experience?

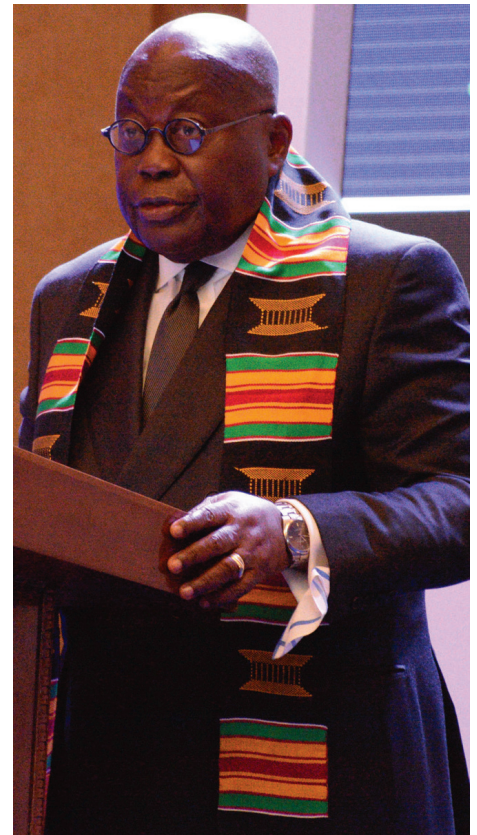
What were African airports' levels of preparedness and adaptation to climate change, and what were their roles in green initiatives and the use of technology in the efficient management of energy and renewable energy?

Delegates also considered ACI's innovations to reduce delays and enhance efficiency at airports, such as the airports collaborative decision making (ACDM) initiative and the role of various stakeholders in its implementation.

The issue of embracing emerging technologies without regard for peculiar needs and future planning was discussed.

Lorenzo Di Loreto, vice president, sales and

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View from the top: HE Nana Addo Dankwa Akufo-Addo, President of Ghana, declares the event open.

CONTINUED FROM PAGE 67

marketing, Munich Airport International, Germany, was clear: “The real challenge we see in Africa is that we do not look at the vision of the airports so that the technologies will look ahead of development. There is no proper planning. We just want to invest in technologies without knowing why.”

It was a theme picked up by Prosper Zo’o Minto’o, regional director, ICAO, WACAF, Senegal, who pointed out: “Only a few airports have a masterplan that give an idea of airport development policy. Most airports don’t have clear visibility when it comes to planning, and governments don’t take planning seriously.

“Under the no airport left behind (NALB) initiative, we need to look at the different sizes of airports. There is need to look at regional variations.”

The issue of data security was raised by Yaw Kwa Kwa, managing director, Ghana Airports Company, who explained that, from experience, systems could be compromised and, therefore, multiple back-ups, both within and outside the airport authorities, were necessary.

“There is no 100% cyber security. Every system can be hacked,” he said.



The need for training of cyber security personnel was emphasised, even though Di Loreto narrated how cyber security experts had left his company after he had spent around \$25,000 annually in training them.

“If governments can help train people in cyber security, it will help to get the job done,” said Kwa Kwa.

Session moderator, Angela Gittens, director general of ACI World, pointed out that before airports introduce technology, they needed to deal with security equipment and back-ups.

Zouhair Mohammed El Aoufir, managing director, National Airports Authority, Morocco, concluded that civil aviation authorities and governments should ensure that the use of technology was taught in schools.

In the innovations in airport security session, panellists agreed that innovation went beyond technology and had more to do with human beings.

The session moderator, Antoine Rostworowski, deputy director general, programmes and services, ACI World, Canada, identified evolving security threats such as improvised explosive devices; chemical, biological and radiological threats; advanced cyber threats; non-terrorist threats, such as protests and disruptions; which all have to do with human beings.

The cost implications of embracing airport technologies was evaluated. “The revenues of African airports are becoming tighter and tighter every day,” noted Mthoko Mncwabe, CIO, Airports Company South Africa.

Delegates called on governments to improve

**There are taxes going to government that are not being invested in the aviation sector. Government just needs to support development.**

PROSPER ZO’O MINTO’O

their economies and strengthen the value of their currencies, noting that the strength of Ghana’s currency in relation to the US dollar had helped to achieve the funding for its recently upgraded airport facilities.

“There are taxes going to government that are not being invested in the aviation sector. Government just needs to support development,” said Senegal’s Zo’o Minto’o.

On drones technology, Tunde Oyekola, from Nigeria, noted that although they were invented to check security threats, they had become threats themselves.



However, the FAA’s representative in Africa, Braks Etta, stressed that, despite possible ills that could be associated with drones technology, they were useful for airport safety, including the scaring away of birds to avoid bird strikes.

A strong case was made for artificial intelligence (AI) in airport security management. “African airports should collaborate to fast-track the implementation of basic systems and start focusing on the new frontier of AI,” said Charles Hanson Adu, group executive, airport management, GACL, Ghana.

“The world has advanced to the arena of AI, where data is used in real time to make decisions that result in efficient systems. Whether we like it or not, the technology is going to augment or completely transform industries as we know them today.”

In an era when regular air travellers want to take control of their journeys, reflected in self check-in and other innovations, digitalisation of systems requires huge investments that not all airports can afford.

“For small airports, people are not always

travelling regularly, so, it is difficult to take ownership for those who travel just a couple of times a year,” said Ahmat Hassan Orozi, a representative of the director general, ASECNA, in Chad.

“Those who travel regularly can easily adjust, even though a system is relatively new. Eight countries handed over their airports to us to manage in ASECNA. They have less than two million passengers per annum. They lack capacity to invest significantly in building new big airports.

“Funds are not always available for digitalisation of state-owned airports with less than one million passengers.”

Indranil Gupta, managing director, GSEZ Airport in Gabon, added: “There is no solution that is one cap fits all. The whole business should be looked at on case-by-case basis.”

Gupta suggested that technology should be seen by small airports as an opportunity, rather than a challenge. “Sub-saharan airports are a bunch of reasonably small airports with opportunities for investments. This makes technology a huge opportunity,” he said.

Olivier Baric, aviation director, African region EGIS, Cote D’Ivoire, advised SITA and other providers of airport technology to identify what small airports need, know their priorities and address them.



Discussing climate change, delegates agreed that weather patterns were no longer predictable in Africa and that the word ‘future’ should no longer be used for climate change effect as it was already a reality.

Airports authorities across Africa, such as Kenya Airports Authority, ACSA and ASECNA, shared their various approaches to emissions reduction, while Ramatou Magagi, principal investment officer, IFC, USA, stated that her organisation had decided to “support only airport projects that are energy efficient”.

Conference participants agreed that the airports collaborative decision making (ACDM) initiative, if implemented, would help to drive actualisation of airport technology benefits across the continent.

ACDM features frequent stakeholder collaborative meetings and sharing of information among stakeholders at different airports on needed emerging technologies and how to embrace them.

Elsewhere during the week, El Aoufir was elected president of ACI, Africa. He took over from Saleh Dunoma of Nigeria.

Also, 13 Africans who graduated from the ACI 2019 APEX safety assessor training programme (SATP) were presented with their graduation certificates, while two conference participants won ACI scholarships through a raffle draw.

The 29th edition of the ACI event is expected to be held in Mombasa, Kenya, in March 2020. ■

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*Strong supply chain management is essential if MROs are to control costs in a competitive environment.*

**Chuck Grieve** looks at some of the challenges and solutions.

## How to improve profitability on a data-day basis

**O**ld hands will tell you that no-one gets fired for carrying too much inventory. Other, wiser professionals also know that too much inventory – a symptom of weak supply chain management – limits profitability.

A recent cross-sector study by McKinsey found that commercial aerospace players tended to carry more than twice as much inventory as their industrial peers. Possible reasons for this, say industry observers, include international minimum equipment list (MEL) requirements meant to address possible critical parts failures away from base.

In Africa, cross-border issues add to the challenge.

But the great strides in predictive analytics may influence changes.

As a tool for supply chain management, the software-based approach of predictive analysis, which underpins predictive maintenance, is attracting attention. It's gaining acceptance as operators and MROs recognise that it can be used for efficient inventory control and logistics.



Data analysis is part of what Airbus' Skywise platform does – identifying patterns within data to help find root causes and the most efficient and least costly solutions in the supply chain. The ramifications are obvious: such insights spread over a fleet open the door to greater efficiency in scheduling of MRO checks, placement of spares and rotables, and decisions on replace versus repair.

Innovative operators, such as Etihad Airways, are banking on benefits from condition monitoring. Etihad, which serves seven destinations in Africa, is reported to be retrofitting a technology called flight operations and maintenance exchanger (FOMAX) to aircraft in its single-aisle fleet. The airline hopes to gain full advantage of adopting the technology in due course, but a spokesman said there are many hurdles to overcome en route.

Greg Hoggett, technical director of the global parts supplier AJW Group, concurs. He said the MRO industry is

“very much in the infancy” of learning how to use the ‘big data’ coming off aircraft effectively in the supply chain and logistics.

He said that, at the moment, the pragmatic approach would seem to be developing “a meaningful approach to working with smaller [data] sets” that could eventually be scaled up to big data.

In Africa, as elsewhere, the main challenge is to have the right parts, at the right place, at the right time. In this regard, digitisation of the supply chain is driving change by enabling software platforms, such as Skywise, to help operators become more proactive.

Swiss AviationSoftware (Swiss-AS) leads the charge with AMOS, its comprehensive, fully integrated MRO software solution. “More than 150 customers worldwide rely on AMOS,” said the company; among that number it counts Nile Air, Royal Air Maroc and SAA Technical (SAAT).

Swiss-AS says the software is designed as an integrated tool for the full management of customers' maintenance and engineering (M&E) and logistics needs. A key advantage for users is its large customer community, which actively supports AMOS by their daily input.

Major developments to AMOS recently have included the addition of functions for the management of new generation aircraft, as well as multi-entity and multi-operator functions for airline groups.



Swiss-AS said its engineers are currently working on a cloud-based message broker called AMOScentral to let members of the AMOS community connect.

Despite advances in predictive approaches, unpredictable events continue to tax MRO minds and tie up large sums in MEL inventory at different points in an airline's networks.

One suggestion from the AJW Group is to allow operators serving common destinations with the same aircraft type to share MEL items. AJW noted that a caveat of any such arrangement would be the fast replenishment of stock.

Estonia-headquartered Magnetic MRO is moving in that direction with a new supply chain programme offering a flight-control kit for Boeing 737NGs.

Inga Douglas, Magnetic's chief commercial officer, said the supply of complete sets of both primary and secondary controls is “quite limited” and usually “scattered throughout the globe and multiple vendors”.

Sourcing them can take time and increase aircraft-on-ground (AOG) costs, so Magnetic – itself an MRO – decided to develop a solution. It now stocks complete serviceable Boeing 737NG kits with EASA Form 1 certificate, in ‘ready-to-go’ condition.

**Relied upon: The Swiss-built software system, AMOS, is designed as a comprehensive integrated tool for management of the supply chain and logistics.**



*Firnas Aero Technics souhaite changer la donne concernant le stockage et le démantèlement des avions en fin de vie. Vincent Chappard a rencontré ses équipes au dernier MEBAA Conference and Show de Marrakech.*

## UNE NOUVELLE EXISTENCE AUX AVIONS EN FIN DE VIE

**O**n estime aujourd'hui entre 8 000 à 10 000 avions qui arriveront en fin de vie dans les 10 prochaines années. Le trafic aérien devrait doubler d'ici 2030. L'industrie du transport aérien va devoir trouver des capacités pour stocker, démanteler et recycler ces aéronefs. Ils sont aujourd'hui en grande partie stockés dans des déserts notamment aux États-Unis.

Peu d'industriels sont aujourd'hui engagés dans le stockage et le démantèlement d'avions. Il existe des opérateurs MRO sur le marché (voir encadré) mais peu de sociétés spécialisées (notamment en Afrique et au Moyen-Orient) qui proposent ce type de service sur mesure pour les compagnies aériennes. L'offre mondiale est donc limitée et la demande croissante.

Une jeune pousse tunisienne, Firnas Aero Technics, est entrée sur le marché de la déconstruction d'avions en fin de vie en 2017.

« Notre stratégie est de diminuer la taille des cimetières d'avions dans le monde », souligne Nader Torjeman, directeur de Firnas Aero Technics. « Nous proposons des solutions sur mesure pour le stockage, le démantèlement des avions en fin de vie pour les aéroports, les compagnies aériennes et les loueurs. »



L'Afrique a ainsi une carte à jouer pour stocker, démanteler et de recycler ces avions. Les sites de Firnas Aero offrent des solutions de stockage locales pratiques, permettant une induction et un redéploiement rapides des avions. L'Afrique du nord est un environnement idéal pour la préservation de ces aéronefs.

Selon Nader Torjeman, Firnas Aero Technics assure une réelle alternative pour les propriétaires d'avions (compagnies, loueurs, brokers) de même qu'un service clé en main sur l'ensemble du processus : stockage, désassemblage d'avions, recyclage et retour chez le client.

Firnas Aero Technics a mis en place une

### Un « sourcing » vital pour la MRO

**Le démantèlement d'avions répond également à un besoin vital pour les ateliers de MRO.**

**Le « sourcing » et l'accès à des actifs de pièces de rechange (équipements, moteurs) à des prix compétitifs sont la clé pour offrir un support et un niveau de service optimal aux compagnies.**

**Il en va également de la réduction du « Turn Around Time » grâce à la disponibilité des pièces et de la réduction des coûts des « shop visit », à la fois pour les opérateurs MRO et les compagnies aériennes.**

**Les coûts par rapport aux différentes options sont des éléments hautement considérés : l'achat de pièces ou d'équipements neufs, les solutions de réparation ou désormais la nouvelle solution de « sourcing » via le démantèlement d'avions et de moteurs.**

**Depuis 2016, AFI KLM E&M développe une activité de démantèlement d'avions en vue d'améliorer son approvisionnement en équipements et moteurs de rechange.**

**Plusieurs centaines de pièces de ces avions seront recertifiées avant d'être revendues où d'alimenter le réseau mondial des « spare pools » et des ateliers d'AFI KLM E&M.**

**Ces opérateurs investissent tout d'abord dans l'achat d'avions. AFI KLM E&M a annoncé récemment la mise en œuvre d'une filiale dédiée au sourcing d'avions et à la gestion de leur démantèlement pour la revalorisation des actifs récupérés, en soutien des activités de maintenance.**

installation dédiée au démantèlement des moteurs, fournissant des solutions personnalisées allant des processus QEC certifiés au recyclage complet des moteurs.

Elle dispose des certifications (Part 145 et EASA) pour fournir ces services. Il s'agit également pour la compagnie de donner une deuxième vie aux pièces de rechange.

Firnas Aero Technics projette d'installer plusieurs sites de stockage et de déconstruction au niveau mondial. Le premier sera situé à l'aéroport tunisien de Tabarka. Cette concession disposera d'un entrepôt et des outillages nécessaires. Ce projet est en cours de finalisation et le site devrait être en service à la mi-2020.



La compagnie s'est également tournée vers les autorités du Maroc qui lui ont accordé une concession à l'aéroport d'El Rachidia.

Selon Firnas Aero technics, ses implantations en Tunisie et au Maroc permettent d'avoir une proximité et un déploiement vers Afrique de l'Ouest. Ces pays offrent un cadre législatif avantageux et des coûts compétitifs.

Elle s'est également lancée dans une activité complémentaire : la MRO. La société finalise la construction d'un hangar à Marrakech, pouvant stocker deux avions d'affaires, pour dans un premier temps lancer une activité de « line maintenance ». Firnas Aero Technics dispose des certificats adéquats des autorités du Maroc et de l'EASA.

Pour Nader Torjeman, il existe une véritable demande dans ce secteur mais il y a un manque de capacité. Firnas Aero Technics a démarré la 2ème phase du projet avec la construction d'un nouvel hangar pour la maintenance lourde, qui sera achevée d'ici une année.

La compagnie compte déployer des partenaires financiers (banques) et techniques pour cette activité.

Firnas Aero Technics compte soutenir son développement et travaille désormais sur des projets d'expansion en Asie et au Moyen-Orient. ■

Nader Torjeman: « Nous proposons des solutions sur mesure pour le stockage, le démantèlement des avions en fin de vie pour les aéroports, les compagnies aériennes et les loueurs. »



## SUMMARY

# FIRNAS BREATHES NEW LIFE INTO RECYCLING AIRCRAFT

Young Tunisian company, Fimas Aero Technics, is looking to change the way that airlines and operators in Africa and the Middle East deal with dismantling and 'parting out' of airframes when they reach the end of their lives, writes Vincent Chappard.

Statistics show that up to 10,000 airframes will become redundant over the coming decade. And, as air traffic is expected to double by 2030, airlines need to find capacity to store, dismantle and recycle these locally as they are now largely standing in deserts, many in the USA.

Fimas Aero Technics only entered the aircraft deconstruction market in 2017 but it is already making its mark.



"Our strategy is to reduce the size of aircraft cemeteries around the world," explained director Nader Torjeman. "We offer tailor-made solutions for the storage and dismantling of end-of-life aircraft and are offering our services to airports, airlines and charter companies."

Africa has a major card to play in the dismantling and recycling of airframes and Torjeman said Fimas Aero's sites offer practical local storage solutions as north Africa provides an ideal environment and climate for the storage of these aircraft.

With EASA part 145 certification, Fimas Aero Technics has also set up a facility dedicated to engine dismantling,

## French connection

Since 2016, Air France Industries KLM Engineering and Maintenance (AFI KLM E&M) has been developing an aircraft dismantling business with a view to improving the supply of spare engines and equipment. Many parts of these airframes will be re-certified before being sold, answering the growing global requirement, as well as supplying its own MRO workshops.

And, to this end, AFI KLM E&M recently announced the launch of a subsidiary dedicated to this activity.

providing customised solutions ranging from certified United Kingdom Accreditation Service (UKAS) quality for engineering consulting (QEC) processes to complete engine recycling.

The company plans to create several storage and deconstruction sites worldwide, the first being at the Tunisian airport of Tabarka, where it will have a warehouse and tools. This site is expected to be operational by mid-2020.

The company is also working with the Moroccan authorities and has recently been granted a licence to operate at El Rachidia Airport.

According to Fimas Aero, its operations in Tunisia and Morocco allow for convenient access from throughout west Africa as these locations also offer an advantageous legislative framework and competitive costs.

The company has also launched a complementary MRO operation and it is finalising the building of a hangar in Marrakech, capable of housing two business aircraft... initially to launch a line maintenance facility for which it already has the appropriate certification from both the Moroccan authorities and EASA.



Torjeman said there is a real demand in this sector, but a lack of capacity, so Fimas Aero has begun the project's second phase with the construction of a new heavy maintenance hangar that will be completed within the coming year. The company also intends to support its development in the region with expansion into Asia and the Middle East.

Airframe dismantling and 'parting out' fulfils a vital need for MRO workshops as the local sourcing of – and access to – spare parts at competitive prices is key to providing support and an optimal level of service to airframe operators.

The same applies to the reduction of turnaround time, where the local availability of parts and the reduction in the costs are of paramount importance.

In today's highly competitive environment, costs always come top of the 'wish list' and recycled parts from dismantled airframes now form an increasingly important part of the equation. ■



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*A new lease of life has been given to the successful turboprop airliner programme as the resurgence of the De Havilland brand delivers an aircraft ideal for Africa's changing needs. Alan Peaford reports.*

## Dash for growth with Africa's 'ideal' turboprop

The Q400 has long been plying the African skies but, with break-up of the commercial aircraft arm of Bombardier, there were questions about the future of the popular turboprop. However, with owners Longview Aviation Capital reviving the historic De Havilland Canada (DHC) name and bringing a new focus to the marketing of what is now the DHC-8 – or Dash 8 – aircraft, it is very much business as usual.

The announcements at the Dubai Airshow in November that the oil and gas operator, Elin Group of Nigeria, was buying a DHC-8 for its activities in the oil fields of the Niger Delta, plus a raft of airline orders, suggest DHC's intentions for the iconic aircraft are sound.

Sameer Adam, regional vice president for Africa and the Middle East, was one of the executives to move from Bombardier to DHC and has no regrets.

"We are a smaller, leaner, more flexible organisation. We are taking the best of what we know from our experience at Bombardier and applying that, but also bringing fresh ideas," he said.

"We are injecting fresh blood and need to make sure that the Dash 8 programme now grows on the success it has had, when relatively hidden under the bigger Bombardier cloud."



Indeed, that success has been quietly masked over the years. There are some 25 operators for the Dash 8 across Africa and more coming under the revived DHC name.

Air Tanzania was the first to take delivery of a DHC-8 at the end of 2019 but Ethiopian has a continuous delivery stream; Kenya's Jambojet is taking more and TAAG Angola will receive its new aircraft during 2020.

Adam said that African operators are pushing the boundaries. "It is not about just buying an aircraft. The first dual-class Dash 8-400 came out of a discussion off the production line with Ethiopian airlines; there was a conversation around a table with a scratch pad with the airline laying out its vision and asking what can you do for us?"

"And I credit Ethiopian for helping us really launch that two-class variant because other airlines followed suit and this makes sense for our market."

Adam sees increased opportunity in Africa. "The dynamics within Africa are changing. If you get outside of the major hubs of Nairobi, Cairo, Lagos, Johannesburg, maybe Abidjan as well, there's market opportunities in between. One of the biggest challenges that airlines face is limitations imposed purely by the size of aircraft. Often, they have narrow-bodies and wide-body aircraft, which



**We are injecting fresh blood and need to make sure that the Dash 8 programme now grows on the success it has had.**  
SAMEER ADAM

they try to deploy on thin routes, hoping they'll stimulate traffic. It doesn't work.

"The market, itself, will never react and say it makes sense for me to pay this type of a fare, or it makes sense for me to wait for this kind of schedule rather than have more flexibility, which is the typical requirement for developing markets."

Adam's biggest bugbear is the way turboprop operators are treated.

"The service-offer shouldn't be hindered by the way the airport treats the turboprop versus the jet," he said. The approach to passengers starts from the time they buy the ticket. They're looking for an airline experience. The Dash 8-400 is jetway capable, yet do we necessarily find all the airports are supporting the 400 being brought up to a jetway where a passenger boards a B737 or an A319?

"We will do a lot of work to educate the local market on a modern turboprop; it's quieter than a jet, as fast as a jet. It delivers a one-hour schedule within minutes of a 737. When you look at a re-engined narrow-body, we are 50% quieter, produce fewer emissions and save on fuel.

"There's always an opportunity to look at how else we can stretch or shrink the aircraft. Conversations are starting to take that to the next level. And, hopefully, the right ones will mature at the right time to trigger the right investment on the product."

*Bolloré Transport & Logistics a inauguré en septembre dernier son nouveau hub logistique multimodal « Aerohub », à Abidjan. Des détails avec Vincent Chappard.*

## LA VISION 2020 DE L'AÉROHUB DE CÔTE D'IVOIRE

**S**ituée au sein de l'Aéroport international Félix Houphouët Boigny et à proximité du port d'Abidjan, cette nouvelle infrastructure logistique multimodale a pour vocation de recevoir, stocker et distribuer au sein d'une plateforme tri-température les marchandises destinées au marché ivoirien ou de la région. Elle alimente ainsi des opérateurs du secteur de la grande distribution, des télécommunications, de l'industrie pharmaceutique et de la restauration.

« La Côte d'Ivoire est un des pays les plus importants en Afrique pour Bolloré Transport & Logistics en termes d'activités, de volume d'affaires, d'investissements et de diversité de métiers », rappelle Jérôme Petit, son directeur général en Afrique. « Aerohub bénéficiera de notre savoir-faire et de 15000m<sup>2</sup> d'entrepôts et de bureaux aux meilleurs standards internationaux. »



Il s'agit également pour le Groupe Bolloré d'asseoir sa position stratégique et de leader sur ce marché dans les offres de services logistiques en Afrique de l'Ouest. La Côte d'Ivoire réalise plus de 80% de ses activités d'import-export à partir de l'aéroport et du port autonome d'Abidjan.

Le nouvel Aerohub disposera d'outils modernes (Word management system, CCTV...). Sa construction se fera en trois phases. La première plateforme inaugurée en septembre dernier fera de la logistique en liaison avec des flux multimodaux. Elle servira le marché domestique et la région.

La seconde phase apportera une solution intégrée pour l'activité du fret aérien avec la construction de 3500m<sup>2</sup> d'entrepôt et 1500m<sup>2</sup> de bureaux. Il s'agit de regrouper l'ensemble des métiers liés à l'aérien. Les travaux seront lancés en janvier 2020 pour une livraison fin 2020. La troisième phase verra une extension de 6000m<sup>2</sup> d'entrepôts.

Bolloré Transport & Logistics entend capitaliser sur cet

### SUMMARY

## 2020 VISION FOR IVORY COAST AEROHUB

The first phase of a major new logistics hub at Côte d'Ivoire's Félix Houphouët Boigny International Airport, close to the port city of Abidjan, began operating late last year.

French operator, Bolloré Transport & Logistics, says that it's already becoming a vital asset for both the country and the west African region.

Today, more than 80% of the country's international trade passes through the airport and the nearby seaport.

Named 'Aerohub', the facility is designed to receive, store and distribute goods – including perishable items – destined for the Ivorian market and the region, particularly concentrating on products destined for the

retail, telecoms, pharmaceutical and catering industries.

"Côte d'Ivoire is one of the most important countries in Africa for Bolloré," explained CEO Africa Jérôme Petit. "Aerohub will benefit from our know-how as the 15,000sqm of warehouses and offices have been built to the highest international standards."

Aerohub is being built in three phases. The second will provide an integrated solution for the airport's freight-handling with the construction of 3,500sqm of warehousing and 1,500sqm of offices – due to open at the end of 2020.

The third and final phase will see an additional 6,000sqm of temperature-controlled warehousing.



**Jérôme Petit:**  
« Notre ambition est d'ouvrir les portes du continent africain et d'être le moteur de la transformation logistique multimodale du continent africain. »

Aerohub pour s'inscrire durablement dans la dynamique de croissance de la Côte d'Ivoire et de la région.

« Notre ambition est d'ouvrir les portes du continent africain et d'être le moteur de la transformation logistique multimodale du continent africain », souligne Jérôme Petit.

Bolloré Transport & Logistics note une évolution du marché du fret aérien en Afrique. Les statistiques montrent une contraction des flux entre l'Afrique et l'Europe. Il y a eu également un ralentissement des projets pétroliers et miniers sur le continent. Les opérateurs optent davantage pour des solutions avec moins d'aérien afin de mieux maîtriser les coûts de transport.



Aujourd'hui, la croissance vient d'Asie et du Moyen-Orient. Pour Jérôme Petit, cela implique une évolution de choix en termes de partenaires aériens. Des compagnies aériennes se consolident à l'instar de Turkish Airlines, d'Ethiopian Airlines et de Rwandair. Les grandes sociétés internationales souhaitent pénétrer le marché africain et Bolloré Transport & Logistics souhaite apporter des solutions répondant aux normes internationales.

L'aérien reste un métier solide en Afrique. Grâce à la synergie de ses moyens et à ses solutions logistiques multimodales, Bolloré Transport & Logistics compte prendre une part active dans les grands projets de développement du continent notamment sur les grandes infrastructures aéroportuaires.

Pour son prochain grand projet, le groupe pourrait mettre le cap sur Kinshasa. ■



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*With space-based air traffic management gaining traction globally, Thomas Kgokolo, the interim CEO of South Africa's Air Traffic and Navigation Services (ATNS), speaks to Keith Mwanalushi about system integration in Africa.*

## Watching this space...

**A**utomatic dependent surveillance broadcast (ADS-B) technology is currently all the rage in air traffic management (ATM).

Eliminating the need for often costly ground-based infrastructure, a space-based ATM network could, theoretically, monitor the entire globe.

The International Civil Aviation Organization (ICAO) has indicated that in Africa, being a technology consumer with limited resources, the cost effectiveness of ADS-B aeronautical surveillance service provision would make a significant difference, compared to current radar systems.

Africa sees a very small percentage of global air traffic but Kgokolo feels the size of the market has no real relevance, as air navigation service providers (ATNSP) are expected to provide a safe and efficient service to all airspace users.

"The introduction of ADS-B is assisting ANSPs to have a better spectrum of cooperative surveillance solutions to choose from when they have to design and support airspace operations," said Kgokolo.



He added that a hybrid combination of sensors (PSR, SSR, WAM, MLAT, MSPSR, ADS-B, A-SMGCS, etc) may be used to realise the necessary service. "The different solutions have their benefits and disadvantages, and the challenge is to use the best technical solution for the need, not merely looking at the establishment costs, but considering the full life-cycle-costing of the system plus all supporting services."

Kgokolo reckoned this was only part of the challenge in the region. He suggested that a surveillance system must be supported by a capable air traffic management system to consolidate the multiple surveillance sensors into an air situation picture for controlling purposes. "The impact of this component is not always considered when surveillance solutions are sourced," he felt.

Given the unique challenges faced in Africa, this consideration is even more critical. The main drivers in these considerations are air traffic services required, separation standards, availability, electrical supply, telecommunication supply, preventative maintenance, corrective maintenance, accessibility, environmental aspects, and so on. From this list, requirements should be considered individually, as well as how they support the rest of the ATM system.



**Thomas Kgokolo: "The introduction of ADS-B is assisting ANSPs to have a better spectrum of cooperative surveillance solutions to choose from when they have to design and support airspace operations."**

PICTURE: ATNS.

The issue of avionics equipment to access ADS-B still stands. In the US, the FAA has set a deadline of this month for aircraft to be equipped with ADS-B capability, while for counterparts in Europe the deadline was extended to June 2020.

According to the ICAO, issues around the implementation of air navigation service systems, with regards to avionics equipment, are generally addressed in the African-Indian Ocean (AFI) region, in the first instance, through bilateral consultation between ANSPs and airspace users. For states in this region, avionics modifications are expected to continue to January 2025.



Kgokolo feels avionics equipment is still a concern. He said this was due to various contributing factors (type of avionics, age of avionics, etc). "That said, the alignment of equipment at a regional level should be such that it transfers the full cost-benefit potential to the airspace users. If the region works on the same technology requirements and similar timelines, a user can have the operational benefits on the full flight trajectory, rather than be restricted to pockets of equipment and, thus, not achieve the full economic benefit from take-off to landing," he explained.

Domestically, Kgokolo reported that South African airspace is currently supported with the required surveillance equipment and associated service delivery. The airspace is, furthermore, structured along continental airspace and oceanic airspace.

The benefit of ADS-B (conventional and/or space based) in continental airspace lies in the complementary service offerings – reacting to changes in operational requirements where current services may be extended, filling of coverage gaps in certain areas on certain flight levels, or deploying redundancy to support more stringent operational expectations.

The benefit of space-based ADS-B is that it can work in remote or oceanic airspace.

Kgokolo said: "As we know, the enhanced surveillance capabilities may not lead to reduced separation in oceanic airspace, but it will support situational awareness of both the controller and the larger air traffic management system."

And the ultimate benefit will be the support capabilities during emergency situations in these remote areas. ■



*L'équation leasing/achat des avions est un sujet d'intérêt croissant dans les milieux de l'aérien en Afrique. Bien que le leasing ne représente que 23%, il existe un potentiel de croissance sur tout le continent. Des détails avec Anuradha Deenapanray Chappard.*

## TROUVER UN JUSTE ÉQUILIBRE ENTRE LEASING ET ACHAT

Le leasing en Afrique est un défi, cependant NAC a un fort appétit pour le continent, avoue Volker Münster, le directeur Marketing de la plus grande société de leasing d'avions régionaux au monde (70-130 places). Ce segment est essentiel pour aider le continent à débloquent son potentiel et à développer le marché intra-africain.

Selon les spécialistes, combiner location et achat permet de profiter des avantages des deux. Chaque scénario étant unique et déterminé par la disponibilité et le coût des dettes et des baux, il est nécessaire de jauger les avantages et les inconvénients de toutes les options.

Les principaux points à considérer sont : le coût réel des fonds propres dans l'analyse, les déductions fiscales accélérées pouvant rendre une décision d'achat plus attrayante, les réserves de maintenance, la customisation, les conditions de retour, les défis du FOREX, les retenues à la source, la convention du Cap et le fait que l'Afrique compte de nombreuses compagnies avec des analyses de rentabilisation plus faibles.



Les sociétés de leasing doivent donc effectuer un calcul approprié de la valeur actualisée nette en étudiant tous les impacts sur les flux de trésorerie, inclure les coûts liés aux opportunités et aux fonds propres et prendre en compte les flux de trésorerie liés à la maintenance.

Pour Volker Münster, les structures de leasing sont conçues pour assurer une délimitation claire entre propriété, contrôle et gestion. « NAC est enracinée en Afrique. Nous aidons les compagnies aériennes à moderniser et étoffer leur flotte. »

L'Afrique représente 10% du portefeuille d'Aircastle. « En tant que partenaire, nous soutenons la croissance des compagnies aériennes. Il est très important d'examiner leur capacité et la façon de gérer leurs actifs », souligne Tom



**Volker Münster:**  
« NAC est enracinée en Afrique. »

Gathercole, son directeur Marketing. « Nous évaluons aussi les risques liés à la juridiction. »

La nouvelle startup Azorra considère l'Afrique comme un marché très dynamique offrant de grandes opportunités. « Nous recherchons des partenaires créatifs », affirme Jeff Lynn, directeur des ventes. Il reste cependant des obstacles à surmonter comme les infrastructures et la formation.

Certaines compagnies aériennes africaines ont une assez longue expérience du leasing. Après 25 ans, Air Lease Corporation, spécialisée dans la location d'avions Airbus et Boeing, a de nouveau loué un avion à Air Mauritius, son premier A330neo. Selon Kishore Korde, son directeur exécutif, « la neo pèsera énormément sur le développement d'Air Mauritius ».

Les sociétés de leasing estiment que le marché africain présente les mêmes opportunités pour les turbopropulseurs et les avions régionaux. ■

### SUMMARY

## FINDING THE RIGHT BALANCE BETWEEN LEASING AND BUYING

**To lease or to purchase? That is the question exercising the corporate brains behind the African airline industry, where leasing represents around 23% of the market, writes Anuradha Deenapanray Chappard.**

**"Leasing in Africa can be challenging but Denmark's Nordic Aviation Capital (NAC) has a big appetite for the continent," said local marketing VP, Volker Münster. "This segment is essential to help the continent unlock its potential and develop the intra-African market."**

**He explained that the main points to consider are:**

- **What is the real cost of equity?**
- **What are the accelerated tax deductions that can make a buying decision more attractive?**

- **What are the potential maintenance costs?**
- **What are the foreign exchange, tax, and Cape Town Convention challenges?**

**For Münster, lease contracts are designed to ensure a clear demarcation between ownership, control and management. "NAC is rooted in Africa. We help airlines to modernise and expand their regional fleets," he said.**

**American-based global aircraft leasing company, Aircastle, owns and manages 283 aircraft leased to 89 lessees in around 50 countries. Africa represents 10% of its portfolio.**

**"As a partner, we support the growth of airlines. It is very important to examine their capacity and how to**

**manage their assets," explained local marketing director, Tom Gathercole. "We also assess the risks associated with each jurisdiction," he added.**

**After a quarter-of-a-century, Air Lease Corporation has again supplied an aircraft to Air Mauritius, its first A330neo. And, according to the lease company's executive director, Kishore Korde: "The airline's neo will have a major impact on the development of the airline."**

**Florida-based Azorra sees Africa as a very dynamic market with great opportunities. "We are looking for creative partners," said local sales manager Jeff Lynn. "However there are still obstacles to overcome, such as infrastructure and training."**

# all in a day

PEOPLE / PERSONNALITÉ



## Arthur Agossou

Marcelle Nethersole  
*speaks to TCR's  
remarketing sales  
manager for Africa.*

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■ Tell me a little about TCR.

We are celebrating our 20th year of operations.

Based at Zaventem, Brussels' airport in Belgium, we provide solutions for ground-support equipment (GSE) and we are now present in 150 airports worldwide.

We own and manage a fleet of 33,000 units of motorised and non-motorised GSE, maintained in our own workshops by specialised technicians. We work with renowned manufacturers to answer ground-handlers', airlines' and airports' specific needs.

We offer a full-service rental, which is an all-in solution with repair and maintenance and fleet management. Telematics and GSE consultancy are also part of our expertise too.

Once the rental period is over, our GSE, which has been maintained as per manufacturer recommendations, is made available for the second-hand market worldwide.

■ Is second-hand GSE best for Africa?

Africa is an important region for us and we have delivered GSE to most of the African countries.

In fact, a quarter of African countries have received TCR equipment over the last two years.

I wouldn't say that second-hand GSE is best for Africa, but it is definitely one of the options to be considered.

It all depends on the ground-handler's needs. Questions such as is the company starting operations in a new station; is it in need of back-up equipment; how intensive will be the use of the equipment; what are the company's financial means? These are some of the things I need to have answered to identify and propose the most appropriate solution that will 100% fit my customer's operational needs, while respecting possible financial and timing constraints.

TCR offers second-hand services worldwide, not only to Africa. We sell our own GSE equipment and we can, therefore, offer not only the best prices but also guarantee a complete traceability of the equipment, including full maintenance history.

■ What can be the challenges of providing for the African market?

Initially, major challenges resulted from distance away from our customers, using different languages, transport complexity, and after-sales support. We do not see these as challenges any more as TCR has a strong knowledge in transport and a multicultural team, assisted by reliable suppliers to deliver GSE worldwide safely and on time.

Also, our 'flying GSE doctors' (selected GSE technicians) are able to support and share their technical expertise on-site with our customers at any time. Our dedicated spare-parts' unit ensures parts availability at all times.

■ Can you tell me about your projects in Africa?

Africa represents about 15% of the total second-hand sales market and we intend to double that by next year. We all know that PAX and cargo traffic is still growing at a fast rate there, meaning demand for additional airport infrastructure and equipment will increase. TCR is definitely willing to play an active role in this.

Currently, we are supporting the start-up of a new handler at a west African airport by delivering refurbished GSE, plus we are working on a large expansion of an airline GSE fleet in north Africa to manage increasing PAX traffic.

■ What makes TCR such a success story?

The experience of a trend-setter, which is always evolving; ethical and environmental strong company values; dynamic and passionate professionals aiming at long-lasting and trust-based business relations.

In fact, TCR developed the idea of GSE rental 20 years ago, when it was not even an option. As a trend-setter, we know how essential it is to innovate and evolve with technologies to keep our expertise at the top, to best serve and advise customers.

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■ What does a typical day hold for you?

I follow-up ongoing projects or new requests, send offers, and guide customers throughout our workshops, where they can inspect the available GSE, see the status of the equipment undergoing refurbishment, or getting ready to be sent.

I travel a lot to events and organise visits to meet with my customers and prospects. Shaking hands and face-to-face contact is very important for me.

I feel tremendously lucky to have the opportunity to travel and meet with many different people throughout Africa.



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