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WHAT A FREIGHTER

This Boeing 747-467F was seen in Malta last month. The aircraft made a technical stop on the island while flying between Liege and Kinshasa. Although the aircraft proudly displays JetOneX titles it is operated by Air Atlanta Icelandic. Photo credit - Mario Caruana / MAviO News

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A PIONEERING FORCE IN MODERN WARFARE

By Heidi Gibson

There is a lot of interest world-wide in the role of Military Drones or Unmanned Aerial Vehicles (UAVs) on the back of the Russia-Ukraine war. Daily we hear of 'drone strikes' by either side. These UAVS have come such a long way since they were first used in the Second World War.

From surveillance, geo tracking, reconnaissance and even transport, the world of Military Drones is evolving at a rapid rate. Weighing up the pros and cons, the cost of operating a fleet of drones may be cheaper than being reasonable for a legion of fighters on the ground. They can stay in the air for a long time – keeping a track of enemy operations in real time. I still wonder how effective they can be since the opportunity to jam signals, take them down raises all sorts of questions as to their effectiveness in the field.

In this month's edition we really just present a very superficial view offering a brief look at the top 10 companies from across the world.

Keep your eyes peeled and your interest piqued because next month we do a deeper dive into the different missions of drones and have a special article from Ken Treloar GM of Aerobotics. He is putting together a special showreel for our website that will feature a variety of missions from crop spraying to geo-tracking and a great article. Some for the first time and we are super excited.

For more on Aerobotics go here ...but don't forget to look out for our November issue.

Then there is an exclusive interview with privately owned airline Airlink CEO and managing director Roger Foster. Airlink is embarking on a new strategy of success, partnering in a neighbouring country's airline. It's a great read.

This backed by two contributions from our African correspondents Wallace Mawire and Given Chideku provides for great reading about developments in the African Aviation sector.

And last but not least our international columnist Inderjit Singh is back – after a two-year break – thanks of course to Covid-19. He presents his reality-check take on Aviation and its return.

Send me an email if you have any comments to make about the magazine. heidi@airnews.co.za

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TOP 10 MILITARY DRONES COMPANIES

According to Fortune Business Insights, the global military drone market is projected to grow from (US) $14.14 billion in 2023 to (US) $35.60 billion by 2030, at a Compound Annual Growth Rate of 14% during this forecast period.

Fuelled largely by the on-going Ukraine/Russia war, the UAV market is experiencing exponential growth levels across the defence and security sectors where these unmanned aircraft are used for surveillance, geo-tracking and in some cases transportation.

Now with the adoption of Artificial Intelligence that will allow these UAVs to set their targets autonomously, this will only add to the expected growth. Military drones are broken up into fixed, hybrid and rotary wing – each one with their own multiple sensor systems that govern communications, intelligence, advanced flight management systems. The only restrictive factor in this market is the associated high cost involved with this level of technology.

Furthermore, the sector is divided according to the range of operations namely; Beyond Visual Line of Sight (BVLOS), Extended Visual Line of Sight (EVLOS) and Visual Line of Sight or (VLOS).

Other factors such as whether the UAV is semi-autonomous, autonomous or remotely operated taking into account their avionics, payload, software, airframe and propulsion.

At present the global market is dominant by a few large manufacturers – such as those mentioned below. Given the low entry barriers, there are many new entrants to the domestic markets in the US, UK and in China that will lead to a highly fragmented market in the coming years.
In no order of preference, here is a brief look at some of the top players

Lockheed Marting : Is a US-based company headquartered in Bethesda, Maryland offering services with aerospace, information security, and defence technology across the globe.

Lockheed Martin's Indago 3-UAV is a small unmanned aerial system with intelligence, surveillance, and reconnaissance applications. It weighs less than 10lbs, deploys with two minutes, ranges up to 12 km, and is capable of withstanding extreme weather conditions.

Raytheon Company: is a multinational aerospace and defence contractor located in Waltham, Massachusetts. Raytheon Company offers various products and systems such as aircraft radar systems, communication, and battle management systems, and air, land launched missiles.

The Raytheon Coyote is a micro-unmanned aircraft system capable of operating in autonomous swarms and is widely used by the Army and US Air Force for reconnaissance, surveillance, and intelligence.

Northrop Grumman Corporation: is a US-based multinational company specialising in defence and aerospace technology. It offers products in various categories like military vessels, autocannons, chain guns, electronic sensors, and military aircraft and unmanned aerial vehicles.

The MQ-4C Triton is a UAS that provides real-time intelligence, reconnaissance, and surveillance. Another UAV, Bat is widely used for collecting intelligence, real-time videos and images, and laser range finders. This big drone is capable of bearing all-weather conditions.

The company's Autonomous Systems wing conducts R&D in military UAV sensors and processing equipment – which define the potential of most advanced UAVs. In common with most military UAV vendors, Northrop Grumman is focused on improving SIGINT, sensor payloads, and time-of-flight.

BAE Systems Plc: is a British company operating in the arms, security, and aerospace sector. It is the largest defence contractor in Europe. The company is focused on developing

and designing various autonomous aircraft systems and UAVs.

In 2020, BAE collaborated with UAVTEK to develop a nano Bug drone, weighing around 196g with a battery life of 40 minutes and a 2km range. It boasts a stealthy low visual profile and the ability to fly in winds of more than 50mph.

Israel Aerospace Industries Ltd. is leading aviation and aerospace manufacturing company offering aerial and astronautic systems for both civil and military use. It provides advanced technological solutions to commercial consumers and governments across the globe for satellites, weapon systems, radars, and unmanned and robotic systems.

Hovermast 100 is one of the most widely used military drones offered by Israel Aerospace Industries Ltd. Hovermast 100 is an electrically powered drone used for real-time ISR (Intelligence, Surveillance, Reconnaissance) and is widely used in anti-terror activities, border control and portal security, and disaster control management among others.

Turkish Aerospace Industries: focuses on designing, developing, and manufacturing aerospace systems for Turkish Army. The company offers services for rotary and fixed wind air platforms, UAVs among others.

ANKA is a military drone designed to meet Turkish Armed Forces 'surveillance and reconnaissance requirements. ANKA can withstand any weather and is used for tracking stationary and fixed targets, ISR missions, and signal intelligence among others.

Insitu is a pioneer in the design, development, production and operation of high-performance, cost-effective unmanned aircraft systems. A wholly owned subsidiary of The Boeing Company, the company is headquartered in Bingen, Washington with offices in Oregon, Australia and the United Kingdom. The company is publicising the benefits of deploying its ScanEagle drone (currently used primarily by military forces) for monitoring forest fires and helping firefighters.

ScanEagle is a micro, low altitude, long-endurance UAV used for reconnaissance and surveillance and is equipped with electro-optical infrared camera and has a flight endurance of about 20 hours.

Elbit Systems : is an Israeli-based defence company that offers a range of UAVs to military forces worldwide. The company focuses on a number of domains within the drone sector: aerial vehicle and mission systems, sensor and other payloads, communication systems, simulation systems, integration, and programme management capabilities.

The company has also announced its entry into the commercial UAVs segment with the launch of a 1.6 tonne UAV - StarLiner - which is a modified version of the Hermes 900. Elbit is targeting law enforcement applications with the StarLiner. The StarLiner can be equipped with additional features like radar, video cameras, and SIGINT equipment.

Elbit is setting out to compete with the likes of General Atomics in the military and homeland security UAVs markets.

In the small segment the MAGNI is a fully autonomous operation, micro-unmanned aircraft system, specially designed for delivering day/night, 3D real-time intelligence.

This is fully foldable device equipped with dual S-band and LTE communications. The system weighs around 2.5 kg, ranges up to 3 km, and has an operational speed of around 0 to 40 kph.

General Atomics Aeronautical Systems: Headquartered in Poway, California, is an affiliation of General Atomics that offers a variety of UAVs and radar solutions for US military.

The MQ-9 Reaper, also called Predator B is widely used, remotely piloted, UAV used by United States Air Force. MQ-9 is specially designed for long-distance and high- altitude surveillance, close air support, reconnaissance, combat search and rescue, and target development and is well-equipped with an infrared sensor, daylight TV camera, and laser designator.

AeroVironment is a USA-based company that manufactures AI-powered UAVs capable of flying autonomously along any route using computer vision and GPS coordination. The GPS technology integrated into the drones powers the aerial route of the machine. Raven is one of the most widely used AI military drones manufactured by the company, which according to the official statements from the company, is the single most widely used UAV in the world.

SHIFTING STRATEGIES

A privately-owned airline in Southern Africa - Airlink - is breaking with the norm partnering with a small Windhoek-based airline in a franchise type opportunity that can only mean growth and expansion for both entities. It's a win-win for all.

Heidi Gibson, editor of *World Airnews*, interviewed Airlink CEO and Managing Director, Roger Foster about what this means and his take on some of the broader aviation issues affecting airlines in the southern African region.

In October last year Airlink acquired a 40% stake in FlyNamibia. This move opened the doors for both airlines to explore avenues for closer collaboration. More recently the achievement of IATA Operational Safety Audit (IOSA) accreditation and IATA membership and now FlyNamibia is in a better position for growth.

Stepping into this situation means FlyNamibia has access to the Airlink's Global Distribution System, it will be able to reach new markets all around the world and expand its domestic and regional route network.

No doubt about it, it is a game-changer for FlyNamibia, the Namibian Airports Company and the entire country's economy bringing with it associated benefits for business, leisure and private travel, tourism and trade.

While on the other hand, there will be wider, long-term benefits for Airlink.

"We see the franchise model as being a way to develop a network system that is scaleable and repeatable. FlyNamibia is an infant airline and it needs to establish itself. In order to do this, it needs to have an inventory hosting system. It also needs a booking system, a reservation system and – because, if you look at the travel market for business and leisure visitors to Namibia, people come from all over the world - it needs to be able to sell its inventory in those source markets worldwide," said Foster.

"This is where this deal is so important. It will allow the airline to receive that revenue and account for it. And for Airlink, we get to use the brand's invisible intellectual property in the operation of FlyNamibia, we assist in revenue collection, accounting and they are able to grow into a robust little business.

"Our mission in the short term is to get FlyNamibia up and running, on a strong footing so that it can grow and develop other domestic markets tying destinations like Victoria Falls, Luanda (Angola), Lusaka (Zambia), Harare (Zimbabwe) and the Okavango swamps (Botswana).

On a regional level, it's a strategy that could easily be repeated into other neighbouring southern African countries begging the question about whether the airline has set its sights on another.

"Not at the moment. Let's be clear - Airlink's aspiration is not pan-African but it is pan-regional. We can see that there is a great propensity for private initiatives to become entrenched in many kinds of transportation systems throughout the sub-region. But it's is difficult to predict how it's going to roll out in the near future," he said.

Airlink has had lots of experience in the past with 'franchise' type business models involving state-owned carries. One such example close to home would be with Swaziland Airlink.

"We ran that airline for over 20 years, successfully paying dividends out every single year. And we respect the government of Eswatini's decision to take it back".

AIRLINK'S FLEET AND ROUTE STRATEGY

Today the airline has established a rich, dense intra-regional network system based out of Johannesburg and Cape Town – some 59 routes into 49 destinations including commercial partnerships, codeshare agreements with many of the world's leading inter-continental carriers.

Ever since the 'Black Swan' event of Covid-19 in 2019, it has been on a relentless move to grow and add new points to their domestic and southern African network.

Its success was recognised in July this year when Foster and his team received the prestigious international Airline Strategy Award award for the successful reinvention as an independent operator in one of the world's toughest and contested markets.

Foster said while the pandemic tested the mettle of every airline the world over, it created the opportunity for the company to re-think and re-model Airlink and step into the sun on our own terms.

Airlink turned a challenging situation into a market opportunity, ending a long-standing franchise with SAA and launching flights and ticket sales under Airlink's own "4Z" code. The airline adopted its distinctive "Sunbird" livery and its fleet of 62 modern jetliners provides comprehensive connectivity.

A key part of the airline's strategy for success has been to follow demand and then place aircraft types according to this. It's no surprise that the majority of their fleet comprises of different types of the Embraer aircraft.

Starting with their 'route developer', the 37-seater Embraer regional jet, Foster said this type allows the airline to offer higher frequencies on some of the thinner routes.

There is the Embraer E-Jets including three of the smaller 74-seater E170 variant in two class configurations, the 98-seater Embraer 190 with six business class chairs and 92 economy class seats and lastly the Embraer E-195 with 11 business class chairs and the balance of up to 107 seats in economy class. It's a case of the right type to fit the market.

"For example, if you get a businessman wanting to go to a destination like Vic Falls or Windhoek or Harare, Maputo and Lusaka and get there and back in a day - they need to leave very early in the morning and they need to catch the last flight back in the evening. But that won't suit the connectivity requirements of a Qatar, Emirates, Air France or British Airways or any of the interline partners we are talking about. So, the frequency aspect of it creates the propensity to deliver services to all of the market's needs. And that's what Airlink is about.

"In the long term," he said, "when the markets have recovered to where they were pre-COVID it's likely that we will need to think about a different gauge of aircraft.

THE SOUTHERN AFRICAN MARKET – CHALLENGING TIMES

"Things have changed in terms of the way people get access to South Africa and southern Africa. Twenty years ago, there was a dominant national carrier (SAA) that used to provide connectivity from all points of the world - South America, North America, Europe, Australasia and East Asia, etc. There was this pulsating wave of arrivals into Johannesburg and then banks of departures from Johannesburg into the region and domestically. Sadly, that's no longer the case," said Foster.

Today, he said there is a concentration of powerhouse carriers based in the Middle East like Emirates and Qatar as well as others like Turkish and Lufthansa coming into the African market.

This and the fact that the Southern African aviation market is lagging behind our Northern counterpart has all come together to make for tough times.

Once a former powerhouse, South Africa has a zero GDP growth rate and a weakening currency which has meant less business travel but greater inbound tourism.

"SAA is a shadow of its former self, Comair has exited, and other African carriers like Ethiopian, Rwandair and Kenya Airways are now providing regional services to a lot of our neighbouring countries on Fifth Freedom Traffic rights. This is a situation where they are filling the gap, but sometimes over-capacitating the market because there are other smaller airlines – the likes of ProFlight and Fastjet who are also competing to fill in the gaps. On a regional level, places like Vic Falls, Chobe and Maun, the demand has recovered to above pre-COVID-19 levels". The domestic market recovery Referring to the domestic market, he said South Africa has not yet fully recovered to pre-COVID-19 levels lagging at about 20% behind.

"However, this does vary within the region - there are certain routes and countries within the region that are punching above their weight. Think about Botswana, if you think about where they were pre-COVID-19 and where they are now. There are a lot of reasons about why this is so because the country has a lot of great tourist attractions such as those in Gaborone and the Okavango swamps.

THE SINGLE AFRICAN AIR TRANSPORT MARKET (SAATM)

And what about SAATM? A flagship project of the African Union Agenda 2063, this is an initiative of the African Union that aims to create a single unified air transport market across the continent to liberalise civil aviation and kick start economic development.

It aims at expediting the founding Yamoussoukro Decision document signed in 1999, is one of the most talked about issues across the continent – but is still not fully in place. World Airnews asked Foster what is his stance on the policy that proposes opening up of air connectivity across 55 African countries.

"So where do I stand on SAATM. I'm skeptical as to its sustainability. Yes, the thinking is good but its implementation is not.

"All that's happened since this notion of fifth freedom traffic rights, is that more and more, airlines domiciled in Africa are using the SAATM principle to gain access to the economic opportunities in and out of South Africa but without necessarily reciprocating.

"Look at the dominant airlines in other parts of Africa, as long as they get traffic rights between their country and South Africa and between their country and another country neighboring South Africa, they are automatically able to get fifth freedom traffic rights between South Africa and the neighboring country.

"They are all coming here to eat our lunch, but they're not allowing us the opportunity to have some of their lunch. Think about it, we've seen Ethiopian in and out of South Africa, Rwandair and Kenya Airways in and out of South Africa. But not one of them has afforded any South African airline the opportunity to gain access to any of their markets on a fifth freedom traffic rights basis. That is a challenge.

He said trying to implement a single policy across 55 different countries is an extremely complex issue.

"Each country has its own legal frameworks, sets of regulations, technical standards from civil aviation perspective and their own competition regulations. And none of them talk to each other," he said.

ICAO AUDIT FOR SADC COUNTRIES

By World Airnews correspondent Given Chikeu

Zambia will undergo a full safety International Civil Aviation Organisation (ICAO) audit next year.

And will join others – like Botswana and Namibia - also scheduled to undergo the same audit.

The ICAO audits are part of an aviation safety and security oversight carried out under the Universal Safety Oversight Audit Programme (USOAP) to monitor of all safety oversight standards and obligations by all members countries to ensure that the aviation industry of the country adheres to the highest standards.

When the results of the USOAP are made available, they will allow ICAO to assess the nation's capabilities looking at whether the country has effectively and without fail has followed the eight Critical Elements (CEs) of a safety oversight system.

These CEs enable the country to ensure that the implementation of ICAO's safety and other related standards Recommended Practice (SARPs), related procedures and guidance material conform to the aviation operations in the country.

This announcement came at the Zambia Civil Aviation Authority (ZCAA) Part Two of the European Union Aviation Safety (EASA) Drone workshop held in Lusaka recently.

Acting director Zambia Aviation Authority (ZCAA) Mulonda Mulonda told attendees that in August 2024, Zambia will undergo a full ICAO audit and the authority is looking forward to it as it will heighten engagement with the various aviation stakeholders.

The Aviation Sector Support Programme II Component started in the year 2017 and was financed by European Union and implemented by the European Aviation Safety Agency (EASA). The overall objectives of the SSP II Programme are to give support and development for a reliable, safe and efficient aviation operations in the country that will ultimately contribute to the economic growth in Zambia and other African countries.

The European Union has, to date, spent over €5.5 million on technical support of the Civil Aviation Authority and enhancing the Ministry of Transport and Logistics and other aviation stakeholders in order to improve aviation operations.

Zambia Ministry of Transport and Logistics permanent secretary Frederick Mwalusaka said the trust of the traveling citizen depended on how they trust the aviation industry when it came to safety and security.

He said the review and the enforcement of safety standards in terms of international standards acted as an assurance to the country and its aviation sector of the need to expand sustainably, ecologically and in an economic manner.

The SSP Project, according to many speakers at the conference, has been beneficial in the operations of the Aircraft Accident Board, technical support, development of the State Safety Programme and building capacity in the aviation industry as well as establishment of a Drone Centre of Excellence in Zambia.

Meanwhile, head international cooperation EASA Thomas Mickler heralded the outcomes of the joint partnership underlined by ASSP II Programme - evident in the improvement of ICAO USOAP findings.

Massimo Bonannini, a European Union Team Leader for Infrastructure and Development congratulated Zambia for signing the implementation and commitment to the ICAO audits scheduled for next year.

After this airlines that were previously banned from entering the European Aviation space may be able to resume operations.

Head of International Cooperation EASA Thomas Mickler shakes hand with Zambia CAA Mulonda Mulonda while Ministry of Transport and Logistics PS Frederick Mwalusaka looks on

ZIMBABWE BEGINS EMISSIONS REDUCTION MEASURES

By World Airnews correspondent Wallace Mawire

Zimbabwe has started to implement a State Action Plan (SAP) for the reduction of carbon dioxide emissions under the International Civil Aviation Organisation (ICAO-EU) European Union joint assistance project phase two.

The project is being implemented by the Civil Aviation Authority of Zimbabwe (CAAZ) under the leadership of Shephard Machingauta, Focal Point, Environmental Protection.

The National Action Plan Team (NAPT) is headed by CAAZ Director-General Dr Elijah Chingosho and comprises representatives from organisations drawn from government, airline handling services, fuel companies, air traffic navigation, including private and state airline companies.

The Ministry of Environment, Ministry of Transport and Infrastructural Development, Fastjet, Air Zimbabwe and National Handling Services (NHS) are all included.

They will be tasked with determining the baseline, selection and prioritisation of mitigation measures, quantification of expected results, identification of assistance needs, validation and submission of the State Action Plan to ICAO and the drafting of the final report.

"The State Action Plan identifies six key measures that are expected to have the greatest environmental impact. Implementation of some of the selected measures has commenced while other measures are yet to be implemented," said Machingauta.

He said at a meeting attended by aviation stakeholders and ICAO consultants in June this year mitigation measures focused on under the SAP include market-based measures, improved technology, infrastructure and operations including sustainable fuels.

The year 2050 has been set as the time limit for the determination of a global emissions baseline.

Machingauta said that Zimbabwe needs to offset at least 20% of the carbon dioxide produced during international flights by local airlines.

On the market-based measures, he said that the state is currently participating voluntarily in the ICAO Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) adding that CORSIA represents the largest mitigating measure that Zimbabwe aims to implement in the fight to reduce carbon dioxide emissions.

"It is anticipated that CORSIA will mitigate carbon dioxide emissions by compensating elsewhere the effects of the emissions. The state will encourage all operators to voluntarily participate in the programme so as to offset carbon dioxide emissions generated in international aviation," Machingauta said.

Zimbabwe volunteered to participate in the pilot phase of the CORSIA programme on 14 February 2022.

He said that identified improved technology mitigation measures include airlines installing improved airframes and improved engines.

The implementation of the mitigation measures selected by Zimbabwe are expected to lead to the reduction of an average 15 462 tonnes of carbon dioxide emissions from international aviation per year.

Other short-term measures include the possible introduction of a tax for single-engine aircraft as well as introducing airport shuttles which are 100% electric.

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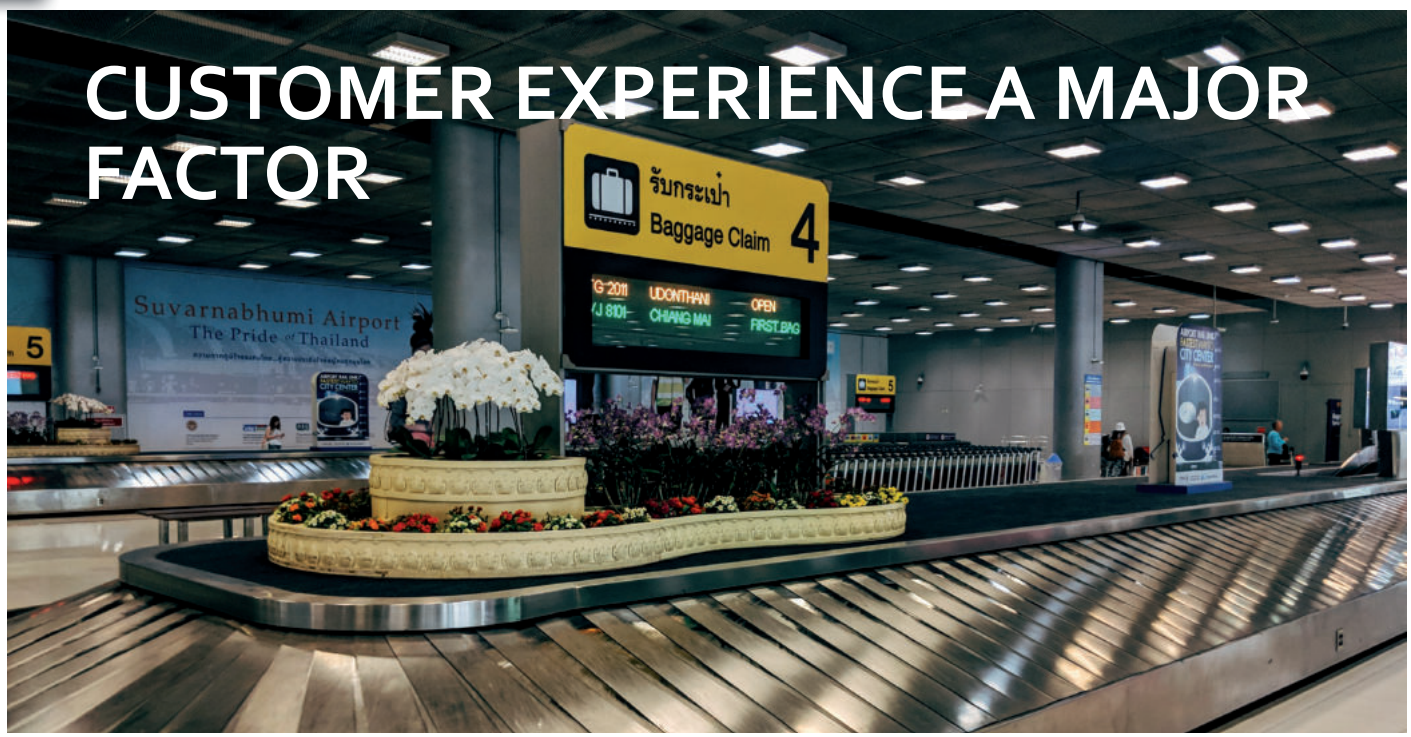

SITA's 2023 Passenger IT Insights report, published recently, finds customers looking to technology to optimise every aspect of the post-pandemic travel landscape, from addressing pain points in the airport journey, to supporting air transport sustainability, to streamlining intermodal travel.

The report reveals that, as demand has skyrocketed post-pandemic amid lingering staff and resource shortages for airlines and airports, the resulting disruptions to air travel have taken their toll on passengers' experience.

Over half of passengers reported encountering flight delays and cancellations, with most highlighting the negative impact this had on their travel experience. It is therefore no surprise that concern over delays and cancellations causes anxiety at the booking stage for nearly one third of passengers in 2023.

Against this backdrop, passengers are embracing the use of smart technologies to smooth pain points along the journey.

2023 has seen passengers continuing to adopt mobile as a remote control for the journey, with boosted usage across booking, check-in, dwell time, on board, and bag collection.

When asked about comfort levels with biometric identification throughout the journey, passengers scored an average of 7.36 out of 10 (with 10 representing most comfortable), up from 7.26 in 2022, reflecting a rising desire for the frictionless airport experience this technology facilitates.

There is additional interest in completing certain checks pre-arrival at the airport to further maximise efficiency, with nearly one fifth of passengers pointing to 'automated checks before the airport ensuring documents are sufficient to pass border checks' as a potential improvement to the booking process.

Sustainability is another crucial area where passengers highlight the potential of technology.

The use of new technologies supporting sustainability emerged as the number one initiative passengers would value most for both airlines (for 64% of passengers) and airports (62%). This has jumped considerably from about half of passengers in 2022, sending a clear message to the industry that innovative approaches to achieving concrete emissions reductions are front of mind.

Such technologies include flight path optimisation to reduce fuel burn on the airline front, and tools that monitor data on environmental performance to reduce emissions at the airport.

As the world of travel becomes increasingly interconnected, the survey finds that a significant majority of passengers expect to book intermodal* trips in the coming year, with only 24% saying they are unlikely to do so.

As openness to intermodal *travel grows, so too does interest in technology to streamline this experience across the entire journey door-to-door, with passengers seeing intermodal* as a new realm of travel that technology has the power to optimise with greater automation.

One third of passengers expressed interest in being able to drop their bags at their journey start point (either from their home or hotel or from the first terminal of departure) and have them arrive at their end destination, and nearly one third would like to see travel operators coordinate when disruptions occur and respond with necessary changes.

David Lavorel, SITA CEO said, "When planning travel, cost is just one of the factors affecting travellers' willingness to book flights. Experience at the airport has become fundamental to passengers' decision making, and travellers are telling the industry loud and clear: the more they are subjected to clunky and inefficient processes, the more likely they are to consider other options."

** Intermodal travel refers to any trips that consist of multiple modes of transportation (e.g. land, sea, air) but which are booked through a single location or in the same booking.*

SPECIAL MISSIONS AIRCRAFT SOLVE CAPABILITY GAPS

As countries look to take more prominent stances in defence, finding the best combination of capability and cost has created a market for civil helicopters modified for multi-mission military capabilities.

These needs are amplified by growing international instability and require immediate, ready-to-go solutions with a proven track record. Bell is leveraging its experience across civil, para-public and military helicopter domains to meet this demand with a Special Missions Aircraft or SMA initiative.

"Bell's military portfolio, between the Viper, Venom, Osprey and now the Valor, is one of the most versatile on the market, and civil modified aircraft offer an in-between option between pure military and commercial platforms that provide more options," said Mike Deslatte, Bell vice president and H-1/SMA programme director.

Bell's SMA aircraft are identified with the moniker "M" following the model number. The 407M, which shares a DNA and history with the company's OH-58 light attack and reconnaissance aircraft, made its public debut in a six-station configuration at the Army Aviation Association of America Mission Solutions Summit earlier this year. This setup showcased the different weapon setups the aircraft could use for a variety of missions.

Bell Special Missions Aircraft also have the ability to changeout setups for different missions. The 407M can be reconfigured from light attack and reconnaissance to support non-combat missions like medical evacuation or search and rescue.

In addition to versatile and reconfigurable aircraft, Bell aims to leverage its globally established support system to ensure aircraft reliability.

"If you don't have parts for helicopter maintenance, that cuts off your ability to conduct critical missions," said Brian Vollmer, special mission aircraft programme manager. "Continuous and immediate parts and support make the difference in the ability to leverage helicopters in missions where seconds can make a difference."

Down the line, Bell is working to expand this offering across other civil aircraft to leveraging their unique designs and capabilities. At the recent Paris Airshow, the Bell 505 was configured as a military trainer and shares the same glass cockpit avionics as the 407M, allowing for ease of transition from training to performance. The Bell 429 was also configured as a state-of-the art law enforcement demonstrator and features the best tail rotor authority in its class. Drawing from a 50-year lineage dating back to the iconic Huey, the Bell 412 integrates next-generation upgrades into a proven platform.

More than 100 para-public and para-military operators currently leverage the world-renowned workhorse for utility, reconnaissance and community protection missions.

AVIATION TODAY & BEYOND: A REALITY CHECK

As the aviation-centred economy has slowly but surely climbed back close to pre-pandemic levels in many market segments, Inderjit Singh, a UN (ICAO) Aviation Advisor, former CEO of IGI airport, New Delhi, and an international correspondent of World Airnews assesses the current situation and outlines the way forward.

"Just like the mythical bird Phoenix is said to rise from the ashes, aviation will emerge in a re-invented and renewed format, sooner than later; and this time more robust and more sustainable". This is what I wrote in my July 2021 article in World Airnews under the headline "CoronaProof Aviation".

Apparently, I seem to have the gift of prophecy. Though aviation as a sector, has registered considerable financial stability in less than three years, the passenger traffic is yet to fully bounce back to the pre-pandemic levels.

We are gradually heading towards this.

THE MILLION-DOLLAR QUESTION

When will air travel reach pre-pandemic levels?. This is the million-dollar question.

Despite economic uncertainty, airline capacity constraints and related congestion problems in airports; air travel grew 2.5 times as fast as global GDP post 9/11, prior to the global economic downturn in 2018, and more recently the unprecedented devastating COVID-19.

A global overview and analysis of the effects of 9/11 and the pandemic reveal that post 9/11 in 2001, global flight hours were down by 9% while post pandemic in 2020, the global flight hours were down by 70%. Essentially, three-quarters of global airline companies suspended their domestic and international travel and 93% of them suspended their international travel in response to the pandemic. This resulted in a loss of (US) $370 billion for the aviation industry.

As per the ACI World Airport Traffic Forecast 2022-2041, there has been an upsurge in demand across many markets worldwide. Global passenger traffic finished the year 2022 at 72% of 2019 levels. In 2023, global passenger traffic is forecasted to reach 92% of he 2019 levels. Due to the COVID-19 pandemic, global passenger traffic dropped from 9.2 billion in 2019 to billion in 2020, and then recovered to 4.6 billion in 2021,

Photo by Justin Lim on Unsplash

and 6.5 billion in 2022. The baseline projections for global passenger traffic indicate that the industry will recover to 2019 levels by 2024.

FUTURE-READY AVIATION

What followed 9/11, was the formulation of comprehensive legislation by USA to save its domestic aviation industry from bankruptcy that took the lead in the redesign of airline security and safety policies and practices. This encouraged global compliance across-the-board through a universally acceptable regulatory framework. Thus emerged the need to revisit airline & airport safety infrastructure, modernisation and rehabilitation of airports, enhanced customer satisfaction, all within the parameters of high industry standards and global best practices. This worldwide pro-active approach did the required damage-control and has since made our skies safer.

As for the pandemic, it is significant that instant measures of hygiene, distancing, segregation, isolation were very meticulously enforced worldwide to arrest the spread of the virus on ground at airports and on-board the aircraft. The timely emergence of vaccines within a short span of one year through global cooperative efforts helped the removal of travel restrictions and quarantine requirements for vaccinated travellers.

TIME FOR REALITY CHECK

Many industries were hit hard by the economic downturn of 2008 - aviation being one of them, but it can be argued that air travel suffered one of the most severe blows after the global pandemic of 2019.

Unlike the 2008 global financial crisis, which was purely economic and weakened spending power, COVID-19 has changed consumer behaviour and the airline sector irrevocably.

The revival of aviation since then, has however, come a long way and it is time to take stock in the matter.

Most of the recovery could possibly be attributed to the very resilient nature of the aviation industry, the never-say-die attitude of those engaged in it, and the new comprehensive policies formulated. The approach towards financial prudence, streamlining operational parameters, safety, security, and healthcare - the end objective being to eliminate redundancies and add efficiencies into the systems and sub-systems have immensely contributed to ensure accelerated capital turnaround.

MY TAKE

The world airports and airlines are expected to handle 19.3 billion passengers and almost 200 million tonnes of air cargo in 2041. The volume of passengers projected for 2050 is 23.9 billion.

As we look beyond the pandemic, aviation needs to grapple with new realities and consequently devise strategies to meet with this massive mandate.

What is the most important strategic area, other than the usual creation of capacity and modernisation of airports, manufacture and acquisition of the right mix of aircraft types, streamlining the air navigation systems, and introduction of the advanced technology that the aviation sector should in all earnest essentially consider?

It is estimated that the global GDP could be up to 14% higher in 2030 as a result of Artificial Intelligence (AI) - the equivalent of an additional (US) $15.7 trillion - making it the biggest commercial opportunity in today's fast-changing economy.

To my mind, aviation, in all its manifestations, needs to embrace this game -changer technology more aggressively and make it a major component in its tool-kit to transform and restructure its prevailing business models. The biggest sector gains will be in financial operations, communication, healthcare and customer services as AI increases, efficiency, product quality productivity, and consequently profitability.

At the end of this write-up, we are perhaps, left with as many questions as there are answers or more questions still to be answered. It is my conviction that it is better to debate a question without settling than to settle a question without debating it. If you have any questions or comments regarding this topic please contact Inderjit on inderjit.singh@aviationanalyst.net/ indi279@gmail.com

SATELLITE-CONTROLLED MQ-9 REAPER

US Air Forces in Europe (USAFE) have demonstrated the MQ-9 Reaper uncrewed aircraft system's ability to take off and land at airfields without the need for dedicated launch and recovery crews.

The Satellite Launch and Recovery Package (SLR-P), used in proof-of-concept trials in Poland in August, will enable USAFE to have a smaller logistics and personnel footprint for MQ-9 operations, allowing for more agile combat employment for the platform, while also opening options for divert airfields in case of an in-flight issue or a problem at the operating base.

Earlier SLR-P trials in the US saw the MQ-9 operate from roads in Wyoming and dirt strips in Texas.

Instead of ground control stations, SLR-P features a portable aircraft control station (PACS), which is used by maintenance crews use to get the aircraft started and transfer control to the aircrew.

SLR-P consists of a small, mobile container with an inventory list finely tuned to address the operational requirements and environmental nuances of each specific region in which the system is expected to operate.
USAFE said the introduction of the SLR-P can reduce the footprint associated with remotely piloted air systems operations down to just eight personnel from as many as 30 to 150.

According to USAFE, SLR-P's integration with satellite technology enables rapid power-up of the MQ-9A and what it describes as "seamless satellite link establishment, minimizing pre-mission preparations."

A simplified approach to maintenance enabled by the system allows the maintenance team to focus solely on essential tasks, leading to reduced downtime and heightened mission readiness, officials said.

"Hosting this first-ever proof of concept underscores Poland's commitment to protecting not only Polish sovereignty, but also fulfilling its obligation as a pivotal member of the NATO alliance," said Col. Marcin Szubiński, commander of the Polish Air Force's Mirosławiec air base.

Article courtesy: https://shownews.aviationweek.com/usafe-tests-satellite-controlled-mq-9-takeoff-landing-in-poland/content.html

A WORLD INDUSTRY FIRST

Rolls-Royce recently announced a world industry first - achieved in its hydrogen research project.

Rolls-Royce and its partner easyJet are committed to being at the forefront of the development of hydrogen combustion engine technology capable of powering a range of aircraft, including those in the narrow-body market segment, from the mid-2030s onwards.

Working with Loughborough University in the UK and the German Aerospace Centre Deutsches Zentrum für Luft-und Raumfahrt (DLR), Rolls-Royce has proven a critical engine technology that marks another significant step in the journey to enabling hydrogen as an aviation fuel.

Tests on a full annular combustor of a Pearl 700 engine at DLR in Cologne running on 100% hydrogen have proven the fuel can be combusted at conditions that represent maximum take-off thrust. Key to that achievement has been the successful design of advanced fuel spray nozzles to control the combustion process. This involved overcoming significant engineering challenges as hydrogen burns far hotter and more rapidly than kerosene. The new nozzles were able to control the flame position using a new system that progressively mixes air with the hydrogen to manage the fuel's reactivity.

Rolls-Royce is pleased to confirm that combustor operability and emissions were both in line with expectations. The individual nozzles were initially tested at intermediate pressure at Loughborough's test facilities and at DLR Cologne.

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THE RETURN OF THE VIRGINIA AIRSHOW

Photos and text by World Airnews correspondent Mike Wright. Additional photos: Tony Badger

After an absence of nine years the Smoke On the Go team of Captain Scully Levin, Hayley Horan (Scully's daughter) and Brendan Horan pulled out all the stops to ensure that this airshow in Durban, South Africa was firmly back with a bang.

Skydive team in action

With a massive crowd in attendance graced by great weather – there was clear blue skies and a light to moderate North Easterly wind – the stage was set.

This was the second aviation treat for Durban aviators – hot on the heels of the Virginia Sky Grand Prix featuring the aerobatic maestro Rodger Deare, organiser and aviator, that was held earlier this year.

The Puma Energy Flying Lions Harvards under Scully had a busy time of it having already preformed at the Lydenburg Fly-In earlier in the day. And before that - on successive weekends - the Bethlehem and Rand shows.

But I am sure most of you know the ever-energetic aviation legend Scully - at well over 70 years old he still runs on very powerful batteries!

The ASSA show director Rikus Eramsus and his team including CAA and ATNs members had a busy day making sure all was run flawlessly.

Special mention must be made of Brian Emmenis and his Capital sounds team for again excelling with accurate informative commentary and music as only Brian can do weaving his blend of crowd magic. Good to see you back in Durban Brian!

New comer to the Virginia show was the Marksmen 3 main formation under team leader Mark Hensman and some stunning displays

A big thank you to Springbok Flying Academy's Captain Flippie Vermeulen for bringing the veteran Beech all the way from Rand airport.

Mark Hensman with a beautiful low level yaw

The evergreen Puma Energy Flying Lions

Skydive team in action

Juba Joubert puts the Gazelle through its paces

The Marksmen team in action

Captain Jaco Henning thrilled the crowds with the Airlink E195

Pat Davidson on the Red Bull Game Bird

Chipmunks under the command of Grant Timms

Raptors RV 4 team in action

Dave Mandell in the L39

Pat Davidson put in his usual scintillating exact performance in the Red Bull Game Bird having flown in all the way from Gcberha. Also from Gcberha was businessman Dave Mandell in his beautiful L39 who put on an awesome display.

We had three Chipmunks led by Grant Timms – show off some very graceful displays in these machine of yesteryear.

The military had the BK 117 chopper there and they put on amazing display with that 15-squadron machine including a sling hoist demonstration.

An outstanding demonstration in the Gazelle chopper was put on by Jan Joubert who also took the Durban Skydive team aloft. He really wowed the crowds pushing that machine to its limits.

A big thank you from Durban air show enthusiasts to Airlink CEO Rodger Foster for the show stopper. Display pilot Jaco Henning and his team for showing us to take in his new Skybucks liveried all black E195 - ZS YDE - what an amazing display.

Did you know that Airlink is well and truly the largest SA based carrier with over 62 aircraft right now and loads of new routes.

Rounding off the show was the Puma Energy Harvard night demonstration - beautiful. Well done to Scully, Arnie , Ellis and Sean.

After such an amazing day of aviation Durbanites will be crying out for more. I returned home with five cameras manned by me and my two grandsons Matt and James full of beautiful images and videos.

They were my back up team up on the day and have learn the art of photography very quickly being aged only six and 13 years.

A REPAINT IN THE MAKING

This Airbus A330-243 of Kuwait Airways and registered 9K-APD landed in Malta last month. It flew in from Basel-Mulhouse-Freiburg Euro Airport as KAC8239. The aircraft was withdrawn from use in April 2023 and is earmarked to be repainted on the island to join the Royal Canadian Air Force. The twinjet will also be converted to the A330 MRTT standard by Airbus Defence & Space. Photo credit - Mario Caruana / MAviO News

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AFRICAN AIRLINES PERFORMANCE UPDATES

While air traffic levels across Africa continue to rise – reaching 98.4% of the 2019 level – there is a narrowing of the airline revenue gap attributed to Covid-19 when compared with figures from last year, and the issue of blocked funds continues unabated.

These are some of the performance updates issued by the African Airlines Association or AFRAA recently.

Air traffic levels on the domestic front across the continent is estimated at 34%, while intra-Africa traffic is sitting at 29%, and intercontinental traffic is at 37%.

Notably, the total of intercontinental routes operated by African airlines exceeded pre-COVID levels since October 2022.

In some major airports such as Johannesburg, Nairobi, Addis Ababa, Lusaka, Cairo, Casablanca, Abidjan, and Lomé intra-Africa connectivity has reached or exceeded pre-Covid level since December 2022.

REVENUE

Though the full-year estimated revenue gap is yet to be computed, it appears 2023 may be a better year compared to the prior year. The 2022 full-year cumulative airlines revenue gap was (US) $3.5 billion for all African airlines compared to 2019.

In the first three months of the year, African airlines missed the levels attained in a similar period in 2019 by (US) $0.3 billion. This is expected to further narrow in the second quarter to (US) $0.2 billion, according to AFRAA data.

This despite the fact that the price of Jet A1 fuel continues to rise, going over (US) $22 in one month. The global weekly average jet fuel price during the week ending 25 August 2023 was up 2.9% at (US) $126.37/bbl. In July, the average weekly price was (US) $103.64/bbl.

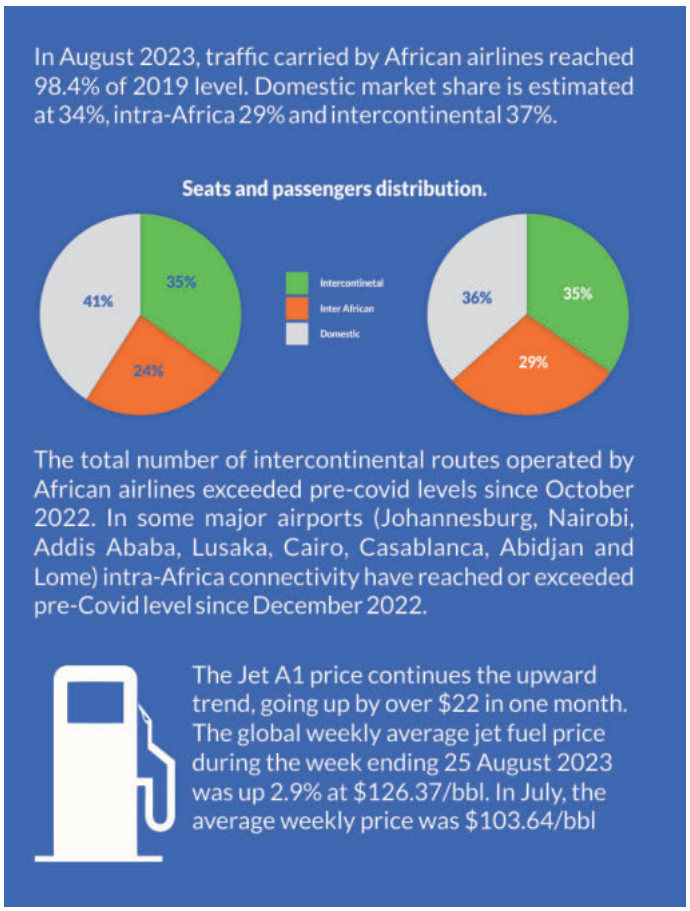
BLOCKED FUNDS

Total blocked funds reported by six (6) African airlines in 15 countries - 13 in Africa and two outside Africa is sitting at an estimated level of (US) $339.1 million as of the end of March 2023.

AFRAA has requested meetings with some central bank governors and to discuss and agree on a solution to this recurrent problem.

REGULATORY/INDUSTRY AFFAIRS

Canada's Air Passenger Protection Regulations Update: Canada passed amendments to strengthen Air Passenger Protection Regulations, with the Canadian Transportation Agency (CTA) proposing changes for more stringent passenger compensation and complaints resolution processes. AFRAA urges airlines operating in Canada to familiarise themselves with the details of the passenger protection regulations to avoid failing victim.



AMENDMENT 29 TO ICAO ANNEX 9 ON TRAVEL FACILITATION: The amendments to ICAO Annex 9 became necessary following the disruption to the aviation business during the Covid period.

To avoid a repeat of the facilitation lapses that occurred at the time, Amendment 29 sought to introduce new guidelines on passenger name record (PNR) handling and health protocols while reinforcing the requirements for handling passengers, especially those with reduced mobility, hearing and visual disabilities.

The new public health standards updated requirements relating to aircraft and facility disinfection. Details are available here: WHO disinfection Procedures.

On facilitation, the New Standards for transport of persons with disabilities outlines special assistance to persons with reduced mobility, hearing- and vision-impairment to enable them obtain flight service-related information in accessible formats.

The amendment also required that designated pick-up, drop-off points for PWDs and access routes be clear with no obstacles and adequate provision of parking facilities for PWD closer to the terminal building.

Other amendments include, advance notice of assistance required for persons with reduced mobility, ensure that airport facilities and services are adapted to the needs of PWDs and establish measures to ensure that procedures are in place to combat trafficking in persons.

HUMANITARIAN AIR SUPPORT IN SOUTH SUDAN

A second Air Serv aircraft has landed in Juba, South Sudan, Africa.

The Cessna Grand Caravan joins, and marks the expansion of, an ongoing programme led by the aviation non-profit organisation to provide a regional airbridge for humanitarian agencies responding to the worsening refugee crisis.

In 2021, Air Serv launched an independent humanitarian air service programme in response to the limited options available to agencies conducting humanitarian operations in the area.

With South Sudan's extreme rainy seasons and deficient ground infrastructure, the ability to safely and efficiently move cargo and personnel by road was already minimal and has been further diminished by civil unrest.

Despite this fact, humanitarian response field teams rarely have sufficient transportation budgets that enable them to deliver the goods and services so needed by the populations they serve. Through a combination of grants, donor funding, and local partnerships, Air Serv has successfully implemented flight services which are currently used by approximately 50 local and international nongovernmental organisations.

Since operations commenced, demand for service has steadily increased.

Earlier this year, Air Serv deployed additional crew to Juba in order to support daily flights transporting aid workers and moving humanitarian cargo. Flight frequency requests increased exponentially following the violent events and civil war which broke out in the capital city of Khartoum in April. The conflict, which quickly spread to the Darfur region, has resulted in millions of internally displaced people and refugees who have escaped to neighbouring countries.

Thousands of those who fled to South Sudan are now stranded at border camps with little to no resources. Air Serv has been conducting relief flights to and from transit centres in Renk, Malakal, and Paloich, transporting both cargo and passengers.

"There was no question about the need for additional support in South Sudan," said Henk Boneschans, Air Serv's managing director in Africa.

"There is a significant humanitarian crisis there and while South Sudan presents a challenging operating environment, our dedicated crew and support staff are highly experienced and adept at working under such demanding conditions.

Serving the humanitarian community is at the core of our mission, and it's what we excel at."

The Juba programme is the organisation's first independently-funded operation in nearly 15 years, and offers a combination of both scheduled services and ad hoc charters to best serve humanitarian partners.

In addition to this programme, Air Serv is proud to be an implementing partner for the United Nations Humanitarian Air Service in eastern Africa. The organisation has also established a formal on-the-job training programme for aviation professionals at its facilities in Entebbe, Uganda, an endeavour further supported by the acquisition of a Redbird Cessna Caravan G1000 flight simulator in 2022.

Founded in 1984 as a US-based nonprofit, Air Serv was developed for the purpose of providing air transportation to humanitarian agencies operating in hard-to-reach areas. In 1997, a permanent operations base was established at Entebbe Airport, strategically positioned to support Air Serv's extensive programmes in Africa as well as the expansion of services offered including aircraft maintenance, freight forwarding, and consulting.

The organisation has ultimately become a recognised and well-respected leader in aviation throughout the region, and has developed a reputation for adhering to the highest of standards in performance, safety, and personnel. For more information or to support these programmes, please visit www.airserv.org.

AERIAL FIREFIGHTING COMPANY SECURES CERTIFICATION

Coulson Aviation, a world leader in aerial firefighting, has received certification from the Administración Nacional de Aviación Civil or ANAC of Argentina to perform aircraft maintenance on Argentinian-registered aircraft.

Coulson Aviation is the only Canadian company to receive ANAC certification for the performance of specialised and non-specialised aircraft maintenance.

This certification bolsters support for the Coulson Aviation aircraft assets currently operating to support the aerial fire needs of Argentina and surrounding South American countries, ensuring quick response to large-scale wildfires.

"Coulson Aviation's experience and commitment to innovation ensures our maintenance capabilities, technology, and products are designed and implemented with unmatched quality," said Britton Coulson, president and COO Coulson Aviation.

"Working alongside dedicated local team members, Coulson's robust training programmes and experienced crews will ensure everyone is trained to the highest standard prior to conducting aerial firefighting missions.

Coulson does more than sell large air tankers, we offer a complete package with both initial and ongoing training that is set up for success and will be key in supporting the upcoming Argentinian fire season."

Coulson Aviation currently operates a large fleet of Boeing 737, Lockheed C-130, Boeing CH-47D, Sikorsky S-61, and S-76 aircraft worldwide, and is the first and only company in the world to convert a Boeing 737 commercial airliner into a FireLiner air tanker.

Each air tanker receives over 40,000 technician hours to become fully compliant and operational.

The FireLiner is differentiated from all other next-generation large air tankers by its ability to transport firefighters without re-configuration and to fly at maximum speeds and altitudes with a load of retardant without restrictions.

Each FireLiner is equipped with Coulson's Retardant Aerial Delivery System (RADS), the most widely used, highest-volume, 4,000 USG tanking systems currently operating around the globe. RADS requires no additional crew or equipment, provides real-time flow rate and superior drop zone coverage, and reduces overall pilot workload.

Coulson Aviation is the only aerial firefighting company that operates both large fixed- and rotary-wing aircraft that are fully equipped to carry out aerial support missions. Coulson's roots in aviation, combined with the company's proprietary technology, a wide array of aircraft types, and well-trained attack crews, allow simultaneous aerial firefighting support across multiple continents.

Based in Argentina, the newest FireLiner modified by Coulson Aviation

The Commercial Aviation Association of Southern Africa NPC (CAASA) is a non-profit organization formed in 1944 to promote and protect the commercial interest of the general aviation industry in South African aviation.

Our member companies include airport operators, non-scheduled operators, business aircraft operators, flying training organisations, aircraft maintenance companies and companies offering a whole range of supporting and retail services.

If you are a company trading or operating in general aviation,then you should be a member of CAASA.

Pic: Pilatus Aircraft Corp.

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Photo Credit: Belinda Fewings / Unsplash

ACSA PROFITABILITY IN SIGHT

Airports Company South Africa (ACSA) has reported its audited financial results for the year to 31 March 2023, which reflect steady recovery and significant improvement on performance compared to the previous year.

Earnings before interest, tax, depreciation and amortisation (EBITDA) amounted to R2 billion, compared to R342 million in the 2021/22 financial year.

Revenue was R6 billion for the 12-month period, up by 55% from the R3.9 billion reported in the previous financial year.

The Group continued to tightly control operating expenditure in increased operating levels, which increased by 10% at R3.5 billion from the previous year's R3.3 billion. High credit losses on trade receivables and fair value losses on investment properties, however impacted profitability.

This resulted in an after-tax loss of R143 million, which significantly reduced from the R1 billion loss in 2021/22.

ACSA CEO Mpumi Mpofu said, "The results reflect the Group's steady trajectory towards recovery and a move closer to profitability, following the turbulent trading conditions brought on by the COVID-19 pandemic".

While ACSA's Recover and Sustain Strategy and the revised Financial Plan provided a structured management approach and a means of resourcing the business, this has enabled the Group to secure and safeguard its long-term sustainability, it is now implementing a growth strategy that will see it return to profitability by next year.

"To ensure profitability, we need to ensure operational efficiency, full utilisation of our R30bn asset base, diversify our revenue streams and growth the business through new commercial initiatives. Our 76% recovery for the year under review compared to 2019 levels, our performance on aeronautical and non-aeronautical revenue ensure that, in the next financial year we are projecting to achieve marginal profits." " said Mpofu.

Factors that influence recovery, such as economic and geopolitical aspects, are beyond ACSA's control. The Group will continue to monitor these closely whilst focusing on the factors that it can control, such as working closely with airlines and the Department of Transport for route development, she said.

"In partnership with airlines, we have to ensure that the conditions are favourable for airlines to want to travel through our airports. So that is the one thing we can certainly control," said Mpofu.

Aeronautical revenue improved significantly by 64% to R3 billion (FY2021/22: R1.8 billion).

This was due to a 20% increase in aircraft movements to 211 787 (2021/22: 176 817) and a 50% increase in the number of departing passengers to 15.8 million (2021/22: 10.5 million). The implementation of the 3.1% tariff increase approved by the Regulator also contributed to the increase in revenue.

Non-aeronautical revenue followed a similar trend, increasing by 46% to R3.1 billion (2021/22: R2.1 billion) and reflecting a significant improvement in trading conditions during the year. The bulk of this income was derived from property rentals (R982 million) and retail activities (R848 million).

Mofu said ACSA has been looking to maintain an ideal 50:50 split between aeronautical and non-aeronautical revenue but said that the constraints on the two revenue streams are largely interdependent because non-aeronautical revenue is driven by aeronautical activity.

"The noticeable trend is that non-aeronautical revenue grows along with recovery in passenger volumes and

passenger movements. Having said that, we do have a diverse portfolio of properties, which is another stream of revenue, but it was also hit hard by the pandemic due to the advent of hybrid and work-from-home strategies," she said.

"Going forward, we will efficiently manage our investment property portfolio, but to divorce non-aeronautical revenue completely from aeronautical revenue is impossible, because this portfolio contains retail properties which is highly dependent on the footprint of passengers at the airports." Operating expenditure increased by 10% to R2.2 billion.

This was largely due to increases in the cost of maintenance and information systems, reflecting the full reopening of airports and supporting services. Utilities costs, in particular, increased due to higher consumption and higher energy prices.

Employee expenditure decreased by 6% to R1.2 billion (2021/22: R1.3 billion) as total headcount decreased to 2 344 from 2 493 in the previous year. This takes into account a mid-year cost-of- living adjustment of 6.5% and 7.5% for executive management and employees respectively, as well as a once-off cost-of-living relief package amounting to R54 million, which was paid to all employees.

Capital expenditure was limited to airport maintenance and resilience during the financial year, with most uncontracted and capacity related projects remaining on hold until funding is secured.

A total of R422 million (FY2021/22: R546 million) was spent on those projects in the current financial year. Mpofu notes that as part of the ACSA recovery, all facilities that were mothballed during COVID-19 have been brought back online, not only due to increased volumes, but also to maintain ACSA's status as a world class airport management company.

"We have consistently won several awards for being one of the best airport management companies on the continent. We want to maintain that position and start featuring in

Photo Credit: Danijela Ptrijovic / Unsplash

the Global airport top ratings, which means that we have to maintain world-class facilities," she said.

With ACSA celebrating its 30th anniversary earlier this year, Mpofu said the company is built on a solid foundation of sound financial management controls and maintaining prudent financial management discipline, which has served it well, especially during tough times.

"In the 30 years ACSA has transformed small airport terminal buildings to world class airport facilities through solid financial footing and a balance sheet that allowed for investors to trust us with their monies. We are amongst the best run Airports Companies on the African Continent and SOEs in South Africa and we have worked out a path to ensure a predictable growth and profitability trajectory."

DHC-6 TWIN OTTER

This DHC-6-300 Twin Otter of Tunisavia registered TS-LSF transited through Malta while flying to Hurghada. The aircraft was spotted last month after having landed the night before. Tunisavia was founded back in 1974 and has its main hub at Tunis Carthage International Airport. Photo credit - Mario Caruana / MAviO News

REVOLUTIONISING THE CONSTRUCTION INDUSTRY

In the contemporary realm of construction, unmanned aerial vehicles, commonly known as drones, have emerged as a technological boon that construction firms are harnessing with remarkable effectiveness. These aerial wonders have ushered in a wide array of benefits, contributing to enhanced safety measures, revolutionising age-old land surveying techniques, and optimising project management strategies.

Here are some of the different applications of UAVs within the construction sector.

ENHANCING SAFETY AND SECURITY

Within the construction milieu, unwavering vigilance is the cornerstone of safety. The construction site is fraught with potential hazards, and even a momentary lapse in attention can culminate in perilous situations. Whether it's the instability of scaffolding or the threat of falling objects, these dangers loom large, underscoring the vital importance of caution.

To lighten the burden on site supervisors and heighten safety, drones have assumed a pivotal role in site monitoring.

With their aerial vantage point, they provide a comprehensive view of operations from various angles, pre-emptively identifying potential hazards before they escalate into significant threats. This augmented visibility profoundly influences the overall safety of the workforce.

Additionally, construction companies employ drones to fortify their defences against theft and vandalism. These airborne sentinels act as vigilant watchdogs, capturing imagery of malefactors engaged in unlawful activities and providing irrefutable evidence for legal action. Beyond their role as evidence gatherers, drones serve as a potent deterrent to malicious individuals, contributing to the overall security of construction sites.

LAND SURVEYING

The traditional practice of land surveying has yielded precedence to modern technology. A construction project, by its nature, is intricate and labour-intensive, but drones have redefined the landscape of planning and organisation. They possess the capability to produce accurate surveys at a pace that exceeds human capacity.

Traditional surveyors typically grapple with the dual responsibilities of fieldwork and office tasks, meticulously measuring property boundaries before recording the data for subsequent use. Often requiring long hours on their feet and extensive travel, surveyors labour through adverse weather conditions. Conversely, project managers equipped with drones can streamline the process, significantly reducing labour costs. Employing 3D laser scanners, these devices capture high-resolution terrain images, meticulously noting variations in topography and other nuanced details that inform subsequent project phases.

ELEVATING PROJECT MANAGEMENT

Adherence to a well-defined project schedule is paramount, with any deviation posing a substantial risk to a company's bottom line. Project managers are tasked with making informed decisions that steer their teams toward success, necessitating course corrections when deviations occur or budgets are exceeded—an intricate balancing act, to say the least.

In construction settings involving structural builds and civil engineering projects, the management of earth-moving and excavation machinery is a critical component. Mishandling such heavy equipment can imperil project objectives. Drones come to the rescue by enabling precise surveillance of these machinery, enhancing their operational accuracy.

As drones oversee project sites, they furnish real-time data to managers and supervisors, granting them greater control over the variables governing project outcomes. Problems can be proactively addressed, minimising potential setbacks.

ANTICIPATING A PROMISING FUTURE

As an increasing number of construction firms embrace drone technology, the benefits extend far beyond those detailed here. While reduced injuries, enhanced security, modernised land surveying techniques, and improved project management are undeniably significant, the potential of aerial equipment remains largely untapped.

Simplified transportation and streamlined inspections are just glimpses of the myriad possibilities that drones bring to the construction industry. Firms are merely scratching the surface of the innovations in robotics. Regardless of how these innovations are harnessed, the trajectory points skyward, promising a future marked by heightened efficiency and unprecedented advancements.