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August, 2023

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AFRAA to Join Focus Africa Initiative

The International Air Transport Association (IATA) and the African Airlines Association (AFRAA) announced that AFRAA is joining the Focus Africa initiative.

Focus Africa aims to maximize the contribution of aviation to development across the African Continent by better serving passengers and shippers. Under Focus Africa, private and public stakeholders are committed to delivering measurable improvements in six critical areas - safety, infrastructure, connectivity, finance & distribution, sustainability, and skills development.

"AFRAA strengthens the Focus Africa coalition as we work to increase aviation's role in Africa's development. This has enormous promise. The continent is home to the world's most rapidly growing population but accounts for just 2% of air passenger and cargo transport activity. The road to realizing aviation's potential will be long. But with the strong partnerships committed to Focus Africa, we can, and we will realize the needed change," said Kamil Al Awadhi, IATA's Regional Vice President for Africa and the Middle East.

"AFRAA and IATA share a common vision – the development of a safe, secure and sustainable aviation industry in Africa that facilitates business, trade, and tourism and contributes positively to Africa's economic growth and development. AFRAA fully supports and encourages collaboration in tackling the challenges and threats to the sustainability of Africa's air transport sector. By joining IATA and the other Focus Africa partners we can help propel this initiative which will deliver widespread social and economic benefits," said Abderahmane Berthé, AFRAA Secretary General.

IATA and AFRAA are also enhancing their collaboration by renewing a joint work program which includes:

- Promoting regional air connectivity by working together with governments to support the implementation of the Single African Air Transport Market (SAATM). This work aims to (1) see the 23 countries committed to SAATM ratify the accord and (2) encourage more countries to join the SAATM.
- Liberating airline funds blocked by governments from repatriation by advising governments on best practices to clear backlogs. Since 2018, a significant amount of blocked funds have been repatriated from Angola, Ethiopia, Ghana, Nigeria, and Zimbabwe through working with the respective governments. Currently \$1.5 billion in airline funds remain blocked across the continent.
- Improving operational safety through a data-driven, collaborative program to reduce safety incidents and accidents. This includes improving data sharing, prioritizing the accurate communication of aeronautical information, timely accident and incident reporting, and promoting IATA safety auditing programs including the IATA Operational Safety Audit (IOSA) and IATA Standard Safety Assessment (ISSA). With all IATA members on the IOSA registry and all AFRAA members on the IOSA or ISSA registry, this effort will focus on encouraging governments to adopt the use of IOSA in their safety oversight programs.
- Achieving reasonable levels of taxes and charges by focusing governments on the long-term social and economic benefits of aviation. Infrastructure in Africa comes with a high price tag; user charges across the continent are 8% higher than the industry average. Infrastructure charges must be set at levels that are fair, justified, and reflective of a value service proposition for airlines and passengers. Efforts in this area have resulted in charges reductions in Chad, the Ivory Coast and Zambia over the last five years.
- Supporting compliance with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). CORSIA is a key element of the commitment to achieve net zero carbon emissions by 2050 agreed to by the industry and governments. Twenty-five African countries are ready and participating in its initial carbon emissions data capturing and reporting phase.

IN THE NEWS



RwandAir

Fly the dream of Africa

set to launch daily direct London flights



Rwanda's national carrier RwandAir is set to launch daily direct services between London Heathrow and Kigali this winter, as it continues to expand its European network.

The new daily service will commence on 29 October 2023 and will "significantly" increase capacity on the route, which currently operates four times weekly.

Services operated by Airbus A330 aircraft will depart the British capital at 20:30 and arrive in Kigali at 7:00 the following day. Return flights depart the Rwandan capital at 23:35 and arrive in London at 6:20 the following morning

Yvonne Makolo, RwandAir CEO, said: "London is an incredibly important market for RwandAir, so we are incredibly excited to be adding direct daily flights from our home in Kigali to London Heathrow.

"Having first launched flights to the British capital in 2017, we have continued to build our presence following strong demand from customers here in the UK and Africa.

"We know these new daily direct flights will offer customers the convenience and connectivity which they have long asked for, and look forward to welcoming more visitors to Rwanda.

Rwandair was founded on 1st December 2002 and operates domestic and international services to East Africa, Central Africa, Southern Africa, Europe, Middle East and Asia with its main base at Kigali International Airport in Kigali, Rwanda.

Oman Air has entered a new sponsorship deal with Chelsea FC that will see Oman Air become the club's global airline partner for the next three years.

The highlights of the partnership include specially designed co-branded livery, which will be unveiled towards the end of the year, as well as joint promotional content and CSR campaigns.

"We are extremely proud of this valuable collaboration, which not only celebrates the love for football but also presents a remarkable opportunity to showcase the beauty, culture and hospitality of Oman to Chelsea's extensive fan base.

With an astonishing 135 million fans, 85% of whom are in international markets, we are offered an unparalleled platform to cultivate awareness of Oman in new markets across the globe, not just on match days, but well beyond," said Abdulaziz Al Raisi, Chief Executive Officer of Oman Air. "This partnership marks an exciting new chapter and we are honoured to be associated with such a formidable team, while

الطيران العماني **OMAN AIR** signs massive deal with Chelsea FC



elevating Oman's position as a must-visit tourist destination."

Chelsea FC chief executive, Chris Jurasek, commented: "We are very pleased to welcome Oman Air as our Official Airline Partner. We have a shared ambition for innovation and success both on and off the pitch, and we are excited to bring this partnership to life for our fans around the world."

Air Tanzania Company Limited (ATCL) aircraft that was seized in the Netherlands seven months ago has been released and returned to Tanzania according to Tanzania government sources.

The embattled aircraft Airbus A220-330 was first seized in December 2022 by a Swedish firm EcoEnergy Limited following the firm's win of a \$165 million lawsuit against the Tanzanian government over the Bagamoyo sugar project.

The company had invested about \$52 million to produce sugar and renewable energy, while other stakeholders were ready to invest over \$400 million in the project.

However, the state revoked the title deeds and challenged the project claiming that the land belonged to Saadani National Park and that the claimant's

Air Tanzania's impounded Airbus A220 returns home from Netherlands



sugar cane and ethanol project would adversely impact local wildlife. EcoEnergy took the matter to court in the Netherlands, filed a breach of contract lawsuit, and claimed damages of up to \$165 million against the Tanzanian government. The foreign firm obtained a court order to attach one of ATCL's Airbus A220-330 aircraft after it landed in Holland.

The chief government spokesperson, Mr Gerson Msigwa confirmed

the plane's return to Tanzania on Thursday, July 6. Mr. Msigwa was speaking on Saturday, July 8, in Arusha ahead of the international anti-graft meeting gathering different stakeholders from the continent commencing on July 9.

He said the plane, Airbus 220, is currently being prepared for resumption of flights to different destinations, noting that it was good news for ATCL.

Turkish airlines realizes 9% passenger increase for July

Türkiye's national flag carrier Turkish Airlines saw passenger levels jumping to 9% year-on-year to 8.6 million, according to the carrier's July monthly traffic statistics.

The aircraft has seen consistent

post-pandemic growth, notably achieving a \$2.7 billion profit for 2022, with demand only continuing to rise through the first half of 2023.

International load factor sat at a modest 84.8%, while Turkish

Airlines' domestic operations achieved a load factor of 94.2% during July. Despite the lowered load factor, passenger numbers surged 11.6% to 2.7 million in July. Year-to-date results remain strong, with the airline carrying 47.3 million passengers between January and July, a 22% increase on 2022, including 16.7 million international travelers.

Turkish Airlines launched new codeshare agreements with airlines, including IndiGo and Vietnam Airlines in the first half of this year, strengthening and expanding its presence further into India and Southeast Asia.

In the beginning of August, the airline unveiled a new joint-venture partnership with Thai Airways, signing a memorandum of understanding to bolster services between Bangkok's Suvarnabhumi Airport (BKK) and Istanbul Airport (IST), and other European destinations.



Saudia to increase seat capacity to 7.4 million seats during this summer



Saudi Arabia's national airline, Saudia plans to increase seat capacity by 15% this summer to 7.4 million seats both domestic and international flights.

The airline will operate more than 32,400 flights, reflecting a 4% increase according to a press statement released last Thursday. These measures aim to meet high demand during peak

seasons and ensure smooth operations, efficient reservations for scheduled and seasonal destinations, and streamlined processes at airports.

For international flights, Saudia is providing more than 4.2 million seats, achieving a 16% increase. Additionally, the airline is introducing over 14,800 flights, reflecting a 15% increase. On domestic routes, over 3.2 million

seats will be available through 17,600 flights. The operational plan for the summer of 2023 is continuously monitored by dedicated teams to evaluate its performance.

Captain Ibrahim Koshy, CEO of Saudia, emphasized the airline's extensive experience in managing operations throughout the year, especially during peak seasons. The plan includes increasing flights, seat capacity, and introducing seasonal destinations to meet guests' needs while providing excellent services.

The airline has implemented comprehensive procedures and prepared the necessary facilities to ensure a successful summer season and Hajj pilgrimage. Saudia relies on its young fleet and dedicated team from Saudia Aerospace Engineering Industries (SAEI) to maintain on-time performance of the aircraft.

Earlier this year, Saudia Group announced the addition of 25 new international destinations, expanding its network to over 100 destinations. This expansion aims at providing more options for travelers and to connect the world with Saudi Arabia. As part of the global SkyTeam alliance, guests can access 1,000 destinations in 170 countries and enjoy over 790 first-class and business-class lounges worldwide.

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INTERNATIONAL NAVAL AND AIR FORCES LEADERS TO GATHER AT THE 3RD EDITION OF THE INTERNATIONAL MARITIME DEFENCE EXHIBITION AND CONFERENCE



The highly anticipated 3rd International Maritime Defence Exhibition and Conference (IMDEC) is set to take place on 29-30 August 2023 at the Burma Hall, Ghana Armed Forces Headquarters, Accra, Ghana. The new dedicated exhibition hall in Burma Camp, purpose-built to accommodate the growing event, will also be inaugurated at IMDEC, the largest gathering of Africa's maritime industry.

IMDEC will bring together regional and international Chiefs of Naval Staff to address the critical issues surrounding maritime security on the continent. The conference aims to foster dialogue and collaboration among key stakeholders to sustain a safe and secure maritime domain, focusing on consolidating the gains made in the Gulf of Guinea. The Keynote speech is by Guest of Honour, Hon. Dominic Aduna Bingab Nitiwul, Minister of Defence, Ghana.

Strategically bringing together key stakeholders in Africa's maritime world, the high-profile event is sponsored by Israel Shipyards Ltd, aselsan, Ocea, Leonardo and Grup Aresa Internacional. The forum will provide insights and case studies on the successful application of a variety of innovations relevant to maritime needs in the region.

Building upon the resounding success of the first two editions, IMDEC 2023 is a biennial event that will feature a two-day conference and exhibition, providing a platform for regional naval forces and relevant stakeholders to tackle the growing threats in Africa's territorial waters and blue economy.

The exhibition will showcase cutting-edge technologies in maritime security and foster strong resolutions and recommendations to overcome the daunting challenges facing Africa's blue economy. It brings the world's leading defence suppliers to Accra for communication technologies, radars, satellite imagery solutions and vessels among other key solutions vital for further strengthening maritime

defence capabilities of African navies. Rear Admiral Issah Adam Yakubu, Chief of Naval Staff, Ghana Navy, expressed the importance of cyber security measures in African navies, stating, "Advancements in onboard systems and rapid digital transformation require African navies to implement measures to safeguard their systems and operations. However, there is a need for African countries to enhance their efforts in the area of cyber security."

The Ghana Navy recognizes the potential of Africa's blue economy and its ability to address economic challenges on the continent. Rear Admiral Yakubu added, "The blue economy offers solutions to numerous economic challenges in Africa if properly harnessed. To realize its potential, we must ensure our maritime space is safe and secure for business and shipping."

The IMDEC Expo will feature a showcase of the latest and most innovative maritime security technologies and solutions, bringing together leading defense suppliers from around the world. Attendees will have the opportunity to connect with technology providers specializing in communication technologies, radars, satellite imagery solutions, and vessels, among other crucial solutions for enhancing Africa's naval defense capabilities.

The event will host more than 300 attendees from over 70 countries, as more than 12 Chiefs of Navy and over 35 speakers will brainstorm on new ideas and discuss the roadmap for the future in sustaining a safe and secure maritime domain.

Organised by Great Minds Events, the conference agenda includes panel discussions, breakout sessions, and extensive site visits, making it the premier strategic gathering for Africa's Navies, Coast Guards, Port and Coastal Authorities, Marine Police, Fisheries, related Ministries, Oil & Gas, and other maritime industries.

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UGANDA'S AVIATION INDUSTRY ON THE PATH TO RECOVERY

By Vianney M. Luggya
UCAA Public Affairs Manager

Entebbe International Airport recorded a total of 842,429 international passengers (413,223 arrivals and 429,206 departures) in the first part of the year (January to June 2023). This reflects 134,679 more passengers than was registered in the same period of January to June 2022 which recorded a total of 707,750 international passengers (326,384 arrivals and 381,366 departures).

The January to June 2023 traffic is also higher than that recorded before the outbreak of the COVID-19 pandemic in the same period of January to June 2019, which registered 836,472 international passengers (405,458 arrivals and 431,014 departures).

While briefing the media on the half year performance at the Media Centre on August 3, 2023, the Authority's Director General, Mr. Fred Bamwesigye, said the International Civil Aviation Organization (ICAO) had estimated full recovery of Africa's aviation industry from the adverse effects of COVID-19 to take place in 2024.

No.	ITEM	Jan-June (2019)	Jan-June (2022)	Jan-June (2023)
1	International Arrivals	405,458	326,384	413,223
2	International Departures	431,014	381,366	429,206
3	Transit Pax	83,142	43,793	57,469
4	Domestic Arrivals	6,458	3,863	5,116
5	Domestic Departures	5,887	3,411	4,314
6	Exports	21,469	21,521	18,817
7	Imports	10,221	10,075	7,125
8	Aircraft Movements	15,460	13,715	14,575
9	Over flights	7,787	7,038	11,203

"Going by the half year performance, Uganda may attain this by the end of this year. The increase in traffic is partly attributed to relaxation of COVID-19 travel restrictions across the globe, tourism promotion initiatives, coming on board of the national airline and attraction of more air operators to Uganda's airspace through liberalization of air transport services, among others," he said.

The DG also provided an update on the project for upgrade and expansion of Entebbe International Airport. "It is also moving on smoothly and is at 85% level of completion, overall. Several sub components of the project have been completed, including the new Cargo Centre, strengthening and rehabilitation of runways 12/30 and 17/35 and the associated taxiways.

Aircraft Apron 4, 2 and 5 were also completed. The only pending works are on expansion of Apron 1, whose works are on-going and construction of a new 20,000 square meters passenger terminal building, which is at 40% level of completion. It will connect to the current terminal building. On completion of all the works by July 2024, Entebbe International Airport's terminal capacity will be enhanced from the current 2 million passengers a year to at least 3.5 million passengers per year," he said.

There is also a separate project for expansion of the current terminal building, which is nearing completion. The departure area is already in use, and soon a canopy to the terminal will be completed by September 2023 so that passengers are dropped-off by the terminal so as to simply move from the car to the terminal.

He also provided an update on a number of upcoming events. Uganda is scheduled to undergo a Universal Safety Oversight Audit Programme – Continuous Monitoring Approach (USOAP-CMA) to be conducted by ICAO in September 2023. It will later on be followed by the Universal Security Audit Programme (USAP) in 2024.

The USOAP - CMA Audit is undertaken to measure the level of compliance of a State in respect to the implementation of ICAO's safety-related Standards and Recommended Practices (SARPs) and associated procedures and guidance material. It is worth noting that the last safety audit was done in 2014 and the State scored above the then global average of 60%. The most recent ICAO audit on Uganda was the USAP audit conducted in 2017 in which the State scored 81.8%, which was well above the then global average of 72%.

Some recent media reports unfortunately mixed-up the safety audit by ICAO with Certification of Entebbe International Airport, which is different and is internally done by the Uganda Civil Aviation Authority (UCAA) on behalf of the state, not ICAO. "The State represented by UCAA is mandated to notify ICAO in case of non-compliance to specific standards through a Compliance Checklist (CC) /Electronic Filing of Differences (EFOD).

This has not been done, given that Uganda fully complies with the standards, and has published a Regulatory Framework indicating compliance with the standards. The Certification of the airport is being done in line with the Regulatory Framework, as a planned activity, and we are on course to have the process concluded in time," Mr. Bamwesigye noted. It is also important to note that the on-going



Aircraft parked at the expanded aircraft parking apron at Entebbe International Airport

certification of Entebbe International Airport has nothing to do with any airline flying in and out of Entebbe International Airport, and that is why there are currently 16 reputable international airlines flying to Uganda.

He also alluded to another inaccurate recycled report that referred to the runway and insinuated a poor record by simply citing two incidents; a Rwanda Airplane that skidded off the runway in April 2022 and an Ethiopian Airlines aircraft that overshot the runway in January 2019.

"To put the record straight, comprehensive investigation of both incidents was done, and recommendations provided to the concerned stakeholders for implementation of corrective action plans to prevent re-occurrence of such incidents," he remarked.

The runway is regularly inspected and meets the required safety standards. UCAA has a robust Runway Safety Programme, and Runway Safety team, which regularly monitors the condition of the runway to ensure safety of landings and take offs.

In 2019, the airport safely facilitated 32,798 aircraft movements, 14,421 in 2020, 21,584 in 2021 and 28,985 aircraft movements in 2022. Of all these, only two incidents that did not register a single injury or fatality cannot be tantamount to a poor safety record. Uganda is also scheduled to host the NAM/G77+ China Summit in January 2024, and Entebbe International Airport is ready to facilitate the arrival and departure of delegates to the Summit.



2023 Event Review

By Vincent M. Mupenzi
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The third edition of AERO South Africa took place over a 3-day period from 6 – 8 July 2023 at the Wonderboom National Airport in the City of Tshwane. The event was presented by Messe Frankfurt South Africa in partnership with Fairnamic – organisers of Europe's largest general aviation show Aero Friedrichshafen, and proudly hosted in City of Tshwane

at Wonderboom National Airport AERO South Africa.

The event featured a 3-day programme with leading industry experts as well as visitor Fly-Ins, demo flights, Youth Development programme, and a Park & Sell area. The 3 day event saw a total of 2981 trade visitors, 14 International visitors, 21 visiting countries, 60 exhibitors, and 116 fly-Ins.

The exhibition space covered a total area of 6123 square meters. During the event, visitors had the incredible opportunity to engage

in stimulating conversations with renowned experts in the General Aviation industry. The show's daily schedule was packed with insightful sessions from exhibitors that delved into the latest innovations and explored various captivating topics.

Visitor Fly-Ins

The success of the visitor Fly-In option was evident as a significant number of pre-registered participants took advantage of this exclusive offer. Their presence enhanced the vibrant atmosphere of the event, fostering valuable



networking opportunities and creating a dynamic exchange of knowledge and experiences.

Demo Flights

Selected exhibitors enthusiastically offered demo flights to serious prospective buyers, providing them with an immersive and exhilarating experience of the aircraft's capabilities and features. These demo flights proved to be a tremendous success, leaving a lasting impression on participants and generating significant interest in the showcased aircraft.

Park and Sell

Throughout the event, aviation enthusiasts and industry professionals alike were captivated by the extensive selection of high-quality pre-owned aircraft on display. The Aircraft Park & Sell area garnered significant attention, attracting a steady stream of interested buyers who were eager to explore the available options.

Business Matchmaking Programme

The response to the Business Matchmaking Programme was overwhelming, with numerous exhibitors and trade visitors eagerly participating in this unique networking opportunity. The program's success was evident through the numerous fruitful connections that were forged during the event. By tailoring the matches based on individual business profiles and specific interests, the Business Matchmaking Programme ensured that participants could engage

with their desired audience, maximizing the potential for successful collaborations and partnerships. Exhibitors and trade visitors alike were delighted by the opportunity to meet and interact with like-minded professionals who shared their industry focus and goals.

Youth Development Programme

The AERO South Africa Youth Development programme was a resounding success. Students with a passion for aviation had the privilege of hearing from esteemed speakers from organisations such as the Aviation Development Foundation, Blue-Chip Flight School and the Mega Training Academy. Inspiring and informative, this session ignited the dreams of future aviators and provided invaluable insights into pursuing careers in the aviation industry.

Aero Adventure Competition

The Aero Adventure Competition was an exciting pilot giveaway program organized by PilotInsure at AERO South Africa 2023. Pilots and aircraft owners were offered the opportunity to win some exceptional prizes by entering the competition by scanning a QR code and completing a form on their mobile device. Pilots could enter at multiple scans of the QR code placed at participating show stands around the show, therefore creating a treasure hunt feel to the competition which made the show more fun and interesting.



Each time an entrant scanned the code at a new stand, he / she gained another entry, improving their chances of winning a prize each time. Prizes were drawn on the final day of AERO South Africa at the Century Avionics Stand at 14h00. David Le Roux from PilotInsure presented the draw and conducted the prize giving.

Prizes won included the following:

- R5000 Century Avionics voucher sponsored by DJA Aviation to Henry Daly.
- Three Toyota emergency kits: Rob Jonkers, Giresse Kinsher and Clinton Bukes
- Garmin D2 X10 Aviator watch valued at R11 990 won by Katlego Sechele.
- R1000 Fuel voucher sponsored by Pretoria Noord Toyota to Kyle Marumo.
- R4500 Weekend for two at Bona Bona Game Lodge to Dean Traill.
- R1500 Gift hamper from Aircraft Finance Corporation to Ephraim Matsaung.



Aero South Africa 2023 was a great event, well organized and timely. The organizers put the exhibitors' interests at the forefront of the show agenda. We believe the mission and objectives of the show were realized. We look forward to Aero South Africa 2024 with great anticipation.



An aerial view of aircraft parked at Aero South Africa 2023



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Aviation schools play a vital role in shaping the future of aviation professionals. In Africa, a continent blessed with diverse landscapes and a growing aviation industry, several outstanding institutions have earned recognition for their exceptional training programs. From pilot training to aircraft maintenance, these aviation schools are equipping students with the knowledge and skills needed to soar to new heights.

By Vincent M. Mupenzi
v.mupenzi@theaviator.co.ug

1. Ethiopian Aviation Academy (Ethiopia)

Located in Addis Ababa, Ethiopian Aviation Academy is renowned as one of Africa's premier aviation training institutions. It is the training division of Ethiopian Airlines, one of the continent's leading airlines.

With state-of-the-art facilities and a comprehensive curriculum, the

academy offers a wide range of aviation-related courses. From pilot training to cabin crew courses, aircraft maintenance, and aviation management programs, Ethiopian Aviation Academy is known for its rigorous training standards and commitment to producing well-rounded aviation professionals.



2. South African Airways Aviation Training Academy (South Africa)

The South African Airways Aviation Training Academy, situated in Johannesburg, is a distinguished aviation school affiliated with South African Airways (SAA), the national carrier of South Africa.

The academy's comprehensive training programs cover various disciplines, including flight training, cabin crew training, and aviation maintenance.

Students benefit from hands-on experience with cutting-edge simulators and industry-leading instructors. The academy's reputation for excellence has attracted aspiring aviators from across Africa and beyond.

3. EgyptAir Training Center (Egypt)

EgyptAir Training Center, based in Cairo, is a globally recognized aviation training institution. It is affiliated with EgyptAir, the national airline of Egypt. The center offers a diverse range of aviation courses, including pilot training, cabin crew training, aircraft maintenance, and aviation security.

With modern training facilities and a strong emphasis on safety and efficiency, EgyptAir Training Center has established itself as a reputable institution in Africa's aviation training landscape.

4. Kenya School of Flying (Kenya)

Located in Nairobi, the Kenya School of Flying is a prestigious aviation school offering top-quality pilot training programs. From private pilot licenses (PPL) to commercial pilot licenses (CPL), the school provides comprehensive flight training to aspiring pilots.

Students benefit from experienced instructors, well-maintained aircraft, and a supportive learning environment. The school's commitment to producing highly skilled pilots has made it a preferred choice for aviation enthusiasts in East Africa.

5. 43 Air School (South Africa)

Situated in Port Alfred, South Africa, 43 Air School has established itself as a leading aviation training organization.

The school offers a wide range of aviation courses, including pilot training, flight dispatch, and aircraft maintenance training.

With a strong emphasis on practical training, 43 Air School provides students with hands-on experience in a professional aviation environment. Its reputation for producing skilled aviation professionals has made it a sought-after institution in the region.

6. Ghana Civil Aviation Training Academy (Ghana)

The academy offers various aviation training programs, including pilot training, air traffic control training, and aviation management courses.

7. Nigerian College of Aviation Technology (Nigeria)

NCAT is a renowned institution in Nigeria that offers pilot training, air traffic control, aircraft maintenance engineering, and cabin crew training.

8. Stellenbosch Flying Club (South Africa)

Known for its scenic location, Stellenbosch Flying Club provides pilot training programs and offers a vibrant flying community for aspiring pilots.

9. Zambia Air Services Training Institute (Zambia)

This institute offers pilot training, aircraft maintenance engineering, and aviation management programs, catering to the needs of aviation enthusiasts in Zambia.

10. RwandAir Aviation Training School (Rwanda)

With a focus on safety and quality training, RwandAir Aviation Training School offers pilot training, cabin crew training, and aviation maintenance courses.

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2023

CONFERENCE RECAP



By **Evans Kimani**
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The 7th edition of the AviaDev Africa conference was hosted in Nairobi's Raddison Blue Hotel between the 14th and 16th of June. The event saw key aviation stakeholders from across the continent converge in the Kenyan capital to cover key issues that impact the aviation industry on the continent.

With over 40 countries represented in the conference, the event saw over 350 industry executives take part in the various activities which included panel discussions and an AviaDev specialized sessions which involved stakeholders taking part in over 650 pre-arranged meetings.

The event, which saw a significant growth from the previous edition held in Cape Town, highlighted the importance of the event in enabling the connecting of various stakeholders, as the aviation scene in the continent continuous to make significant steps to ensure a Single Air Transport Market. The delegate portfolio included airports, airlines, aircraft manufacturers and lessors as well as the media. The host partners of the event were Kenya Airports

Authority, while the platinum sponsors were Airbus, Embraer, Ravnala Airports, Kiu, NACO and Technodyn. Kenya Airways was the official carrier of the event, and the charity sponsors was Nairobi based Young Aviators Club of Africa (YACA).

PANELS & DISCUSSIONS

The main event was officially opened by the Deputy President of Kenya, Rigathi Gachagua who expressed his appreciation for the conference being held in Nairobi & urged all the delegates to sample the Kenyan hospitality & tourism as key issues were being discussed in the conference.

The Deputy President was accompanied by the Chairperson of the Kenya Airports Authority, Caleb Khositany as well as the Cabinet Secretary of Tourism, Peninah Malonza and the theme for the conference remained to be 'Engage, Energize, Elevate'.

Profit before Planet? Navigating investment in environmental solutions amidst industry-wide financial challenges.

The session saw executives from TAAG, Uganda Airlines, Airlink and Kenya Airways giving out their firsthand perspectives in the topic. The session proved crucial in the event as the global charge towards the Aviation industry to switch to cleaner fuels such as SAF as well as the innovation in other fuel types such as hydrogen formed as a key concern in the panel.



This is as it was revealed that the cost of SAF was a burden to both the airline and its passengers. This is as according to the Ugandan Airlines CEO Jenifer Bamaturaki, an average ticket price would triple if all airlines were mandated to use the Sustainable Aviation Fuels. As part of the alternatives suggested by the panelist, it was concluded that there was a need for appropriate fleet planning and air traffic management.

Through this, it would enable airlines to be able to cut costs on fuel and improve the general emissions that are emitted by the industry. Furthermore, the aviation community is urged to play apart in the eco-system, through partnerships with communities who can in turn, contribute to ensuring that they too can play a part in conserving the environment both on the ground and in the sky.

Designing a sustainable route development plan; How to attract & retain airlines in Africa

The panel mainly focused on the role of airports in ensuring their route development plans. Among the panelists were from Ravalala Airports, Kilimanjaro Airports Development Company, Askya Airlines, Qatar Airways, Girls Fly Africa, and Consulium.

Throughout the panel, it was highlighted that data analysis is key to route development. As highlighted, the benefit of data was that it enabled both airlines

and airports to have credibility in their decision-making, furthermore, it enabled the planners to have a simulation and be able to make projections of the traffic entering the airports. Through this, decisions such as aircraft type operating to the airport as well as their frequencies would be decided to achieve the most optimal results. In addition to, it was observed that there was more need for government collaboration in enabling the environment for aviation activities in the airports as well as the selling of their destinations. This is as partnerships prove to be highly important to ensure that the full benefits are realized in the industry.

The SAATM Hard Talk

The session featured the Secretary General of AFCAC, Ms. Adefunke Adeyemi, and it proved to be the most critical session in the whole conference. This is as through a duo discussion between her and Peter Greenberg, the Travel Editor at CBS News, major discussions on the implementation of SAATM were discussed.

Among the outtakes of the session was that there was a need for governments to prioritize the agenda of aviation development. Many of the governments on the continent were believed to be carrying out protectionist policies which directly hampered the opening of new routes which in turn strained connections on the continent. Heavy taxation and the relatively expensive fuel prices which were connected to government policies formed as the biggest challenge witnessed by the implementation of the project.

Hence it was identified that there was need for more cooperation between governments and stakeholders to enable more flights between more cities on the continent. Furthermore, 5th freedom flights were essential in stimulating traffic and if issues such as protectionist policies not only carried by governments but also airlines would be controlled, and rather develop more partnerships; interline agreements and codeshares, this would enable a competitive yet collaborative environment for the industry.

Conclusion

Through these and other discussions held concerning fleet planning and technology development, the event was a key indicator that there was indeed a wholehearted commitment to improving the aviation industry in Africa. And with a unique focus on the role of youth in aviation development, through the AviaDev Ambassador Awards, the conference maintained its commitment in ensuring all persons are actively involved in the development of the industry.

Interview:

REAR ADMIRAL ISSA ADAM YAKUBU

Chief of Naval Staff of Ghana Navy

By Vincent M. Mupenzi
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Rear Admiral Issa Adam Yakubu



Qn:

As the Yaounde architecture marks a decade, the threat level in the Gulf of Guinea remains high. What are the critical factors integral for maritime security, and countering challenges from transnational organised crime in the GoG Region?

Ans:

Even though maritime security threats in the GoG persist, it is not as high as it used to be prior to 2022. A lot has been done by GoG states and international partners to address insecurity in the GoG. This has yielded positive results which has accounted for the drastic decline in incidents.

The critical factors integral for maritime security and countering challenges from TOC in GoG Region include:

- Resourcing of Navies and Coast Guards.
- Cooperation and collaboration.
- Binding Frameworks and timely sharing of Information.

Qn:

What are the key areas where the Yaounde Code of Conduct has made significant progress? What are some of the areas that require amendment and further work?

Ans:

Areas where significant progress has been made include:

- Cooperation, collaboration and coordination.
- Information Sharing.
- Capacity Building and training.
- Building of trust.
- Coordinating international support to maritime security.

Areas that require amendment and further works:

- Funding of the Architecture.
- Commitment of member states to deploy staff to the coordinating centers.
- Possibly reducing the number of zonal coordinating centres or doing away with them. The ICC and Regional Coordinating Centre may be enough to execute the mandate.
- Making the Code of conduct binding to compel member-states to fulfil their obligations.

Qn:

In the era of cyberwarfare, how prepared are African navies in the face of imminent maritime cyber-attacks?

Ans:

Cyber security issues are in the forefront of national discourse in Ghana. Many African Countries are making efforts to ensure that their cyber spaces are safe and secure. Advancement in systems onboard and the rapid digital transformation requires that African Navies put measures in place to safeguard their systems and operations. I am sure these are being done. However, there is the need for African countries to step up efforts in the area of cyber security.

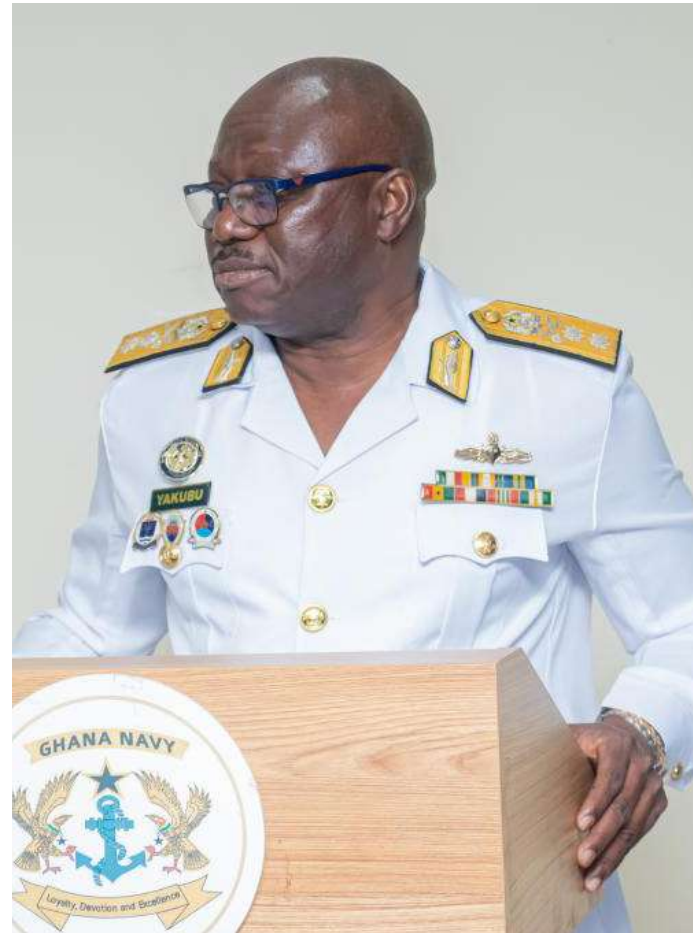
Qn:

What steps are being undertaken by the Ghana Navy to realise the potential of Africa's blue economy?

Ans:

The Ghana Navy believes that the blue economy offers the solution to the numerous economic challenges facing Africa, if properly harnessed. The potentials of the blue can only be realized if our maritime space is safe and secure for business and shipping. Efforts by the Ghana Navy to keep the domain safe and secure include:

- Robust patrolling of the countries waters.
- Collaborating and supporting other maritime



Rear Admiral Issa Adam Yakubu speaking during IMDEC 2023 conference

agencies to achieve their mandate.

- Cooperating with Regional and International Navies on maritime security.
- Training and building capacity to ensure effective and timely response to incident at sea.
- Supporting regional and international arrangements for maritime security.

Qn:

How important is IMDEC for Africa's maritime sector, and what crucial role is the Conference playing in reinforcing the collective commitment for enhancing maritime defence in the GoG Region?

Ans:

IMDEC in the present form is very important for Africa's maritime sector noting that it goes beyond the showcase of technological development in the sector and brings together experts to discuss and share ideas on how to address the challenges that the sector face. Participants learn from each other and also from best practices. In addition, the networking opportunity that IMDEC offers, helps in building trust and improves cooperation among participating countries.

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By Evans Kimani

The aviation scene in West Africa has been full of activity over the past decade. From the revival of new airlines and expansion of other carriers in the region, the area has continuously developed its aviation standards, on the commercial airline front as well as its airports.

With key developments over the period including the launching of new airport projects, as seen in Dakar, Lome, Accra, Abidjan among others, it shows that the region is partaking in a full revamp in the services it provides in the aviation industry.

Among the key factors driving the growth is the increase of market for trade, an increasing demand of passengers traveling in the region, as well as geo-political factors which drive the essential needs for the movement of passengers and cargo in the region.

Among the cities that are key to not being left behind in the revamping of air services in the region is Conakry. The city, which is the capital of Guinea has served as the main connection point for passengers traveling within and out of the country.

Aviation Scene in Guinea;

The country currently has 15 airports, of which 11 remain in active operation according to the Guinean Authority of Civil Aviation (AGAC). Conakry's Ahmed Sékou Touré International Airport serves as the only International airport for the country. The airport during the year 2022 saw over 622,903 passengers passing through the airport with an average of 853 passengers using the airport daily.

There were 10,192 aircraft movements recorded during the same period. This was a recorded passenger movement increase from the previous year where the airport recorded a movement of 400,356, as the country continued to recover from the effects of the pandemic. The airport currently serves 15 destinations through a network of 14 airlines, thus signifying its importance in the region. Through this, the airport

CONAKRY INTERNATIONAL AIRPORT REVEALS EXPANSION PLANS



intends to modernize so as to be able to attract more frequency for its travelers and to enable it to be a major player in the region.

Modernization Project;

Among the key objectives of the airport's expansion project is to accommodate an increased number of travelers that intend to visit the country or use its facilities. This comes as the airport projects that within the next 20 years, the passenger threshold shall increase from 1.5million passengers to 3.5million passengers a year.

Through this, SOGEAC intends to build a 32,000 m² passenger terminal. Through this, the airport will have the ability to handle a larger number of passengers, and with the inclusion of critical technology systems to ease the passenger processing times. Furthermore, the airport is set to see the construction of a freight terminal that will be 3,600m² and will have the ability to handle over 20,000 Tonnes of cargo annually.

The second objective set by the project is to enable certification of its airport infrastructure and facilities as per the norms and recommendations of the

International Civil Aviation Organization (ICAO) as well as other international standards.

This is set to be actualized by the improvement and construction of the Screening Inspection centers (PARIF), car parks, power plant and annex buildings. The roads and slopes of the airport shall be improved from all the access stations. The airport shall further see the construction of a fire station, hotel complex, administration buildings and a Presidential Pavillion.

In a bid to encourage investment in the country, the airport is set to construct a 5-star hotel, which will sit on a 4-hectare land with 5000m² of built construction. The project is set to be completed by December 2024.

Therefore, project displayed by SOGEAC proves the significant steps it intends to take to be a more responsive and favorable option in the Weste African region. Innovation with the focus on safety of passengers and those working in the industry remain essential in the development of crucial aviation projects.

© SOGEAC (All project photos)

INTERVIEW:

Kevin Markette



***Lufthansa Group General
Manager for East Africa***



Qn: Where did your passion for aviation begin?

The passion began when I was young. My parents used to travel a lot and I would always tag along. As a young boy, we would always aspire to be three things: policeman, fireman or pilot and I was very lucky that I qualified to be a commercial pilot. I began working with Lufthansa 23 years ago and I've grown through the ranks till my position right now working in four continents and in many different countries all over Africa. Despite the challenges, I feel at home in Africa since I've worked in southern, western and I've travelled a lot in East Africa but this is my first time to actually stay here.

Qn: Why has Lufthansa shifted much of its attention to East Africa?

The Lufthansa group is the biggest airline group Europe and we have a lot of brands within that all fly to different destinations. We are doing this because of Kenya's relevance to the global scene, and also when it comes to travelling to North America, Lufthansa is the best fit for our customers here because of the wide reach. For instance, Euro wing is one of our leisure carriers which operates to Kenya and flies five times a week nonstop to Mombasa with connection to Zanzibar and Kilimanjaro.

To show our commitment, we have increased our flights from five flights a week in Nairobi to seven via Lufthansa. When it comes to Euro wings, we have increased from two flights a week to Mombasa but now we have five which is seasonal and four year round. In total, we have increased our capacity to 12 flights a week to Kenya which I think a lot of people are not even aware of. In addition, the product portfolio that we have with the three cabins on the aircraft is a good fit for Kenya.

Qn: From your statistics, what kind of travelers are Africans?

While there are some parts of the world which have still not yet recovered, we see a great rebound of corporate travel in Kenya. We've also seen a lot of leisure travel out of Kenya where Kenyans are not just traveling for business but also for leisure to Europe, US or Canada. This is the same kind of travel that is being seen into Kenya from the other big markets. Now that it's high season thanks to the migration in the Mara, we see a very healthy increase in leisure travel into Kenya. Since the beginning of June, we have added over 500 seats extra on the Nairobi route alone which means that there is good market both in and out of Kenya and 200 seats more for the Mombasa route.

Qn: Are the African travel needs the same as other travelers? What have you noticed?

The first bit is that they desire nonstop or at least a one stop flight to everywhere they go in the world. We are here not just to fly tourists to the country but also to take Kenyans to the destinations they desire and watching Kenyans fly means that the economy is robust and that they have a disposal income.

We ensure that we have an adequate offer by flying every day of the week year round, nonstop whether they are flying for leisure or business. The second thing is to ensure that we have an attractive product offering for the market whether it means the seats and the meals on board of the aircraft or competitive pricing. Though we have a reputation of being an expensive airline in the past, there are various reasons as to why we are so. The first if the fact that we have a high demand which drove the prices to be high since the number of seats was low. We are working strongly to ensure that once we exit the high season, we have a very attractive price offering for our customers. We might not be the cheapest but we will have a good pricing product which is very important to consider when customers want to fly.

Qn: Are there similarities and/or differences in the three African aviation markets of West, East and South Africa?

Africa consists of 54 countries with unique sets of condition. The similarity is that countries want to develop their tourism sector. For instance, they want to increase their business traffic because that affects their GDP and that builds the country. There is also a keen interest to attract airlines into the market. The difference is that each of the country focuses on a different niche but the clear thing is that they want airlines in their countries. When we talk of intra Africa connectivity, many African countries are keen to have as many airlines as possible to develop the possibilities out of these markets and it's funny how some countries approach this topic differently.

A country like Rwanda though small yet has new ambitions as they are building a new airport and that's where we are engaged in active dialogue so that we see how we can support the traffic flows. While we don't have any historical ties in West Africa, our sister airline Brussels airlines does and that's why it flies to Monrovia, Ouagadougou, Dakar, Banjul and so on. It's about active dialogue with the authority and where we can earn money since we are a private organization and profits are important.

Qn: How do you get the sales?

A big part of that is working with the travel agents who are really an integral part of our business. We have regular workshops, training and relationships building because ultimately they are the ones selling the product more than



us and we want to make sure that they are familiar with the product.

Qn: How is the airline adapting to new technologies?

Lufthansa was actually one of the drivers of the new distribution capability where the industry is moving currently. Passengers love to have their visual choices these days and if you go to Expedia or bookings.com, you really can select based on visuals and you have a clear understanding of what you can buy. Airline retailing has in the last decade been one of the topics that our airline is strongly engaged with the reservations systems of GDS as we call them.

We have within the Lufthansa group our innovation hub which is a team of colleagues tasked with driving digitalization across all platforms in the business whether its passenger bookings or cargo facilitation or internal processes for a safer handling of the aircraft but the planning and facilitation is all done by digital tools. Digitalization is not only about increasing the passenger satisfaction but also about the safety which is number one. We are also pushing for apps, more digital friendly websites as well as pushing notifications to customers in case there is a delay.

Qn: How is the cargo business evolving in Africa?

The cargo business in Africa has gone through ups and downs over the years. We currently don't have dedicated cargo flights into the country but we have cargo on the belly of the passenger aircraft. While the market is quite saturated in the sense as we have a lot freighters flying into Nairobi, I think there is a place for the Lufthansa cargo. The demand and volume of freight is equally high and Kenya has a lot of exports like flowers, vegetable food product. I see a good possibility that we will continue to grow that segment as well.

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Jekta confirms deal with Mehair for 50 PHA-ZE 100 aircraft

JEKTA

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Jekta, the Switzerland-based PHA-ZE 100 amphibious aircraft manufacturer, has signed an order for fifty of its electrically powered regional amphibious aircraft. Indian seaplane operator Maritime Energy Heli Air Services (Mehair) has inked a deal with deposits agreed for ten firm orders and options for 40 more.

With the agreement confirmed, MEHAIR will be the first customer to receive the aircraft in Asia, with initial deliveries starting in 2029. It is anticipated that the first ten aircraft will be delivered in baseline configuration for 19 passengers to support regional connectivity.

Mehair, based in Mumbai, India, has been operating seaplanes since 2011 and has acquired the aircraft to update its fleet with a sustainable option. "We know the Jekta team's heritage for producing efficient amphibious aircraft and made a strategic decision to acquire these aircraft early.

We want to be one of the first aviation companies in the world to operate a zero-emissions aircraft to support regional flights between land and water infrastructure," says Siddharth Verma, Director of Mehair.

"Blessed with a 7,400 km long coastline and a rich diversity of rivers, lakes, backwaters and dams, India is readying for the amphibious aircraft revolution. We are one of the fastest-growing aviation sectors and the world's largest untapped seaplane geography. The PHA-ZE 100 checks all the boxes for meeting



this amphibious potential, and we are confident that the affordable airframe will transform the way India travels."

Mehair already operates seaplane services supporting air travel between cities and destinations virtually inaccessible by land infrastructure. Mehair has served destinations across the Andaman and Nicobar Islands, as well as destinations across Maharashtra and is adding new routes under the government of India's UDAN regional connectivity scheme, which aims to connect small towns in India through subsidised air routes and infrastructure development.

The Jekta PHA-ZE 100 attributes, which include low maintenance and fuel costs, much-reduced noise, no pollution impact, and minimal aviation infrastructure, combine to make the airframe an optimal platform for sustainable and new routes across the region.



"Mehair's proposed operations and future vision exemplify the potential of our airframe to align with the needs of a growing population seeking to travel regionally, whether from water or land. We aim to drastically reduce per-passenger-per-hour flight costs compared with existing seaplanes, we are exploring the options for redefining single pilot operations in the commercial sector, and we are committed to attracting a new workforce into aviation, all of which will support Indian amphibious operations," said George Alafinov, CEO Jekta Switzerland.

"We know that the Indian government has defined multiple water routes across India and is launching some 100 seaplane routes. We are delighted to work with Mehair to cater to this new and exciting market's dynamic demands."

The PHA-ZE 100 amphibious flying boat will be certified to EASA CS-23 and US FAA FAR-23 standards for fixed-wing passenger aircraft. It is optimised to serve coastal and island communities, regional routes currently limited by operational costs, and to support new low-cost, sustainable services between cities without the need to install expensive land infrastructure. Flexible configurations, including 19-seat, mixed economy/freight, VIP, and ambulance options, make the most of the PHA-ZE 100's spacious, stand-up cabin.





Emirates

Emirates Milestone Journey to SAF Flying

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Earlier this year, Emirates, one of the middle east's leading airlines made history by operating a demonstration flight run on 100% sustainable Aviation Fuel. (SAF) on its Boeing 777-300ER on one of its engines.

The flight took off on 30th January from Dubai International Airport (DXB), and was commanded by Captain Fali Vajifdar and Captain Khalid Nasser Akram, flying for more than one hour over the Dubai coastline. The flight deck crew were accompanied by Adel Al Redha, Emirates' Chief Operating Officer, and Captain Hassan Hammadi, Divisional Senior Vice President, Emirates Flight Operations.



The demonstration flight powered by SAF holds particular significance as the UAE declares 2023 the 'Year of Sustainability'. The year will showcase the UAE's commitment to seek innovative solutions to challenges such as energy, climate change and other issues related to sustainability. The flight supports collective industry efforts to enable a future of 100% SAF flying and help advance the UAE's sustainability objectives.

Emirates' demonstration flight, the first in the Middle East and North Africa to be powered by 100% SAF, supports broader efforts to reduce lifecycle CO2 emissions as the industry looks to scale up its use of SAF. The flights will also help to refine the playbook for future SAF demonstrations, and support future certification where 100% drop-in SAF fuel is approved for aircraft. Currently, SAF is approved for use in all aircraft, but only in blends of up to 50% with conventional jet fuel.

Emirates worked alongside partners GE Aerospace, Boeing, Honeywell, Neste and Virent to procure and develop a blend of SAF that closely replicates the properties of conventional jet fuel. At each blend ratio, a host of chemical and physical fuel property measurements were carried out. After multiple lab tests and rigorous trials, they arrived at a blending ratio that mirrored the qualities of jet fuel. Eighteen tonnes of SAF were blended, comprised of HEFA-SPK provided by Neste (hydro processed esters and fatty acids and synthetic paraffinic kerosene) and HDO-SAK from Virent (hydro deoxygenated synthetic aromatic kerosene). The 100% SAF supplied one GE90 engine, with conventional jet fuel supplying the other engine.

The test flight further demonstrates the compatibility of the specially blended SAF as a safe and reliable fuel source. The promising outcome of this initiative also adds to the body of industry data and research around SAF blends in higher proportions, paving the way for standardization and future approval of 100% drop-in SAF as a replacement for jet fuel, well above the current 50% blend limit.

Adel Al Redha, Chief Operating Officer, Emirates Airline said: "This flight is a milestone moment for Emirates and a positive step for our industry as we work collectively to address one of our biggest challenges - reducing our carbon footprint. It has been a long journey to finally see this demonstration 100% SAF flight take off. Emirates is the first passenger airline in the world to operate a Boeing 777 powering a GE engine with 100% SAF. Such initiatives are critical contributors to industry knowledge on SAF, and provide data to demonstrate the use of higher blends of SAF for future regulatory approvals. We hope that landmark demonstrations flights like this one, will help open the door to scale up the SAF supply chain and make it more available and accessible across geographies, and most importantly, affordable for broader industry adoption in the future."



"GE Aerospace congratulates Emirates on this major achievement. SAF is critical to helping the aviation industry reach its goal to be net zero by 2050 and collaborations like this to test 100% SAF globally will help bring us closer to this target," said Aziz Koleilat, Vice President of Global Sales and Marketing for the Middle East, Eastern Europe, and Turkey at GE Aerospace. "All GE Aerospace engines can operate on approved SAF blends today and we are helping support the approval and adoption of 100% SAF."

"Boeing congratulates Emirates on its successful flight tests using sustainable aviation fuel (SAF)," said Omar Arekat, Vice President, Commercial Sales and Marketing, Middle East, The Boeing Company. "SAF will play a critical role in the aviation industry's commitment to be net zero by 2050, requiring strong industry collaboration. We were proud to partner with Emirates on these tests and look forward to further working with our partners to enable the widespread use of SAF across the globe."

"We are excited to apply our technology to such a milestone demonstration. The 331-500 auxiliary power unit or APU is an integral part of the Boeing 777 aircraft system. The APU provides main engine starting, environmental control and emergency back-up systems for the aircraft on the ground and in-flight. It uses the same fuel as the main propulsion engines. Currently the APU is certified to run on only 50% SAF, so this demonstration is a big first step in showing full APU functionality and capability when running on 100% SAF," said Mosab Alkubaisy, Director of Airlines, Honeywell Aerospace Middle East.



His Excellency Saif Humaid Al Falasi, Group CEO at ENOC praised the achievement as it coincides with 2023 as the 'Year of Sustainability', which was announced by the UAE's President His Highness Sheikh Mohamed bin Zayed Al Nahyan. It also represents a major step towards reducing carbon dioxide emissions and achieving climate neutrality. His Excellency added: "At ENOC, we prioritise working closely with our strategic partners to implement a national roadmap for sustainable aviation fuel.

This not only aims to accelerate the decarbonisation of the aviation sector, but also contributes to achieving the UAE's goals in climate neutrality, enhances the efficiency and conservation of fuel, as well as positions the UAE as a regional hub for sustainable aviation fuel. Playing an active role in supplying Dubai Airports with aviation fuel, ENOC Group is participating in this achievement by securing and blending sustainable aviation fuel, which will help to secure this type of fuel in the UAE in the future." Emirates is committed to supporting initiatives that help minimise its CO2 emissions, and the airline has already made great strides in fuel efficiency and conservation as well as operational advancements.

The airline also supports IATA's collective industry commitment to reach net zero emissions by 2050, and is exploring opportunities to augment operational fuel efficiency, SAF, low carbon aviation fuels (LCAF) and renewable energy.

The airline already runs a comprehensive fuel efficiency programme that actively investigates and implements ways to reduce unnecessary fuel burn and emissions, wherever it is operationally feasible. Some of the programme's most significant initiatives include the operation of "flex tracks", or flexible routings - partnering with air navigation service providers to create the most efficient flight plan for each flight.

These efforts have been ongoing since 2003, and Emirates has been working with IATA to extend this routing system across the world as a standard operating procedure where possible. Emirates' first flight powered by SAF blended with jet fuel was in 2017, operating from Chicago O'Hare airport on a Boeing 777. It received its first SAF-powered A380 delivery in 2020, and also uplifted 32 tonnes of SAF for its flights from Stockholm that same year.

About Emirates

Emirates is one of two flag carriers of the United Arab Emirates Based in Garhoud, Dubai. The airline is a subsidiary of The Emirates Group, which is owned by the government of Dubai's Investment Corporation of Dubai. It operates in more than 150 cities in 80 countries across all continents (except Antarctica) through its fleet of nearly 300 aircraft. Cargo activities are undertaken by Emirates SkyCargo.

Source: Emirates



Top Ten Busiest Airports in the World

It's a good time to examine how the world's busiest airports have recovered, ever since the world of commercial aviation emerged from the pandemic.

According to preliminary figures released by the Airports Council International (ACI) World, global passenger traffic reached close to seven billion in 2022.

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1. Atlanta Hartsfield-Jackson International Airport (ATL)

Atlanta Hartsfield-Jackson International Airport (ATL) was the busiest airport in the world in 2022. With a staggering 93.7 million passengers enplaned and deplaned, ATL experienced an increase of 23.8% compared to the previous year.

The Busiest Airport in the World, ATL serves as a major hub for Delta Air

Lines, one of the largest and most prominent airlines globally, offering an extensive network of domestic and international flights. Other significant airlines operating out of ATL include Southwest Airlines (WN), United Airlines (UA), American Airlines (AA), Frontier Airlines (F9), and Spirit Airlines (NK).



2. Dallas/Fort Worth International Airport (DFW)

Dallas/Fort Worth International Airport (DFW) witnessed substantial growth in 2022, handling 73.4 million passengers. With an increase of 17.5% compared to 2021, DFW also demonstrated resilience by only experiencing a minor decline of 2.3% compared to 2019.

Connecting Texas and Beyond, DFW is a major hub for AA, one of the largest carriers in the world, providing a wide range of domestic and international flights. Other major airlines operating at DFW include F9, NK, and Sun Country Airlines (SY).

3. Denver International Airport (DEN)

Denver International Airport (DEN) handled 69.3 million passengers in 2022. With a growth rate of 17.8% compared to 2021, DEN experienced steady progress despite the challenges posed by the pandemic. Remarkably, the airport's figures demonstrated a 0.4% increase compared to

2019, indicating a strong recovery trajectory.

Denver Airport serves as a hub for UA, offering connections to various domestic and international destinations. Other notable airlines operating to and from DEN include WN, F9, AA, and Delta Air Lines (DL).





4. Chicago O'Hare International Airport (ORD)

Chicago O'Hare International Airport (ORD) served 68.3 million passengers in 2022. Showcasing a notable growth rate of 26.5% compared to the previous year, ORD exemplified a resilient recovery. However, when compared to 2019, the airport experienced a decline of 19.3%, underscoring the industry-wide

impact of the pandemic.

The Windy City's Aviation Hub, ORD, serves as a major base for AA and UA, with both carriers offering extensive domestic and international flight options. Other significant airlines at ORD include DL, NK, and F9.

5. Dubai International Airport (DXB)

Dubai International Airport (DXB) was the busiest airport outside of the United States in 2022, handling a remarkable 66.1 million passengers.

The airport experienced an astonishing growth rate of 127.0% compared to 2021, indicating a remarkable recovery in the

region as well. However, when compared to 2019, DXB still faced a decline of 23.5%, highlighting the ongoing challenges posed by the pandemic. As a major international transit hub, DXB continued to attract travelers from around the world.



6. Los Angeles International Airport (LAX)

Returning to the United States, Los Angeles International Airport (LAX) handled 65.9 million passengers in 2022. With a growth rate of 37.3% compared to the previous year, LAX showcased its resilience amid

the pandemic. However, when compared to 2019, the airport experienced a decline of 25.1%, emphasizing the long road to a complete recovery.

7. Istanbul Airport (IST)

Istanbul Airport (IST) emerged as a rising star in 2022, handling 64.3 million passengers. The airport experienced a substantial growth of 73.8% compared to 2021, highlighting its rapid expansion.

Moreover, IST displayed a decline of 23.2% when compared to 2019, underscoring its emergence as a key global aviation hub.



8. London Heathrow Airport (LHR)

London Heathrow Airport (LHR), one of the world's most prominent airports, served 61.6 million passengers in 2022. LHR witnessed a staggering growth rate of 217.7% compared to the previous year, showcasing its resilience amid the pandemic. However, the airport faced a considerable decline of 23.8% when compared to 2019.

9. Indira Gandhi International Airport (DEL)

Leading the Asia-Pacific region, New Delhi's Indira Gandhi International Airport (DEL) handled 59.5 million passengers in 2022. With a notable growth rate of 60.2% compared to 2021, DEL demonstrated a robust recovery. However, when compared to 2019, the airport experienced a decline of 13.1%.

10. Paris Charles de Gaulle Airport (CDG)

Paris Charles de Gaulle Airport (CDG) concludes our list, with the French airport handling 57.5 million passengers in 2022. CDG experienced significant growth of 119.4% compared to the previous year, signaling a strong recovery.



CASSIO 330:

AN ELECTRIC HYBRID AIRCRAFT

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French startup VoltAero has unveiled its first Cassio 330 electric-hybrid aircraft prototype, following the Cassio family's announcement in May 2020. The aircraft manufacturer has developed a proprietary hybrid propulsion system that combines thermal and electric power for "maximum flight safety and efficiency", according to VoltAero.

The Cassio 330 prototype, presented during the Paris Air Show, is set to perform its maiden flight in late 2023. This prototype will validate the overall airframe configuration and aerodynamics of VoltAero's design.

The aircraft will be powered by a four-cylinder thermal engine derived from Kawasaki Motors' motorcycle engines. "Today marks a true milestone



for electric aviation, as VoltAero delivers on its promise to take an all-new approach for quiet, efficient and eco-friendly transportation that is based on a hybrid design combining thermal and electric propulsion for maximum flight safety," Jean Botti, VoltAero's CEO and CTO said alongside the Paris Air Show unveiling.

"I want to thank my VoltAero team for its dedication and tireless work in reaching this historic moment, as well as express my appreciation to our suppliers and partners for their commitment to Cassio."

The VoltAero Cassio family

VoltAero's Cassio family comprises three different models: the Cassio 330, Cassio 480, and Cassio 600. The aircraft will be assembled in a purpose-built facility at the Rochefort Charente-Maritime Airport in France's Nouvelle-Aquitaine region.

The 330 kilowatt-power Cassio 330 is designed as a four/five-seater aircraft, offering "a perfect balance" between passenger capacity and operational efficiency according to VoltAero.

The Cassio 480, with a combined electric-hybrid propulsion power of 480 kilowatts, accommodates up to six passengers, making it ideal for regional travel and air taxi services. For larger groups, the Cassio 600 can seat 10 to 12 passengers and features an increased electric-hybrid propulsion power of 600 kilowatts. VoltAero's Cassio family uses a unique hybrid propulsion system. During taxi, takeoff, primary flight (for distances less than 150km), and landing, the aircraft relies solely on the electric motor mounted in the aft fuselage.

This all-electric power mode allows for quiet and eco-friendly operation. The hybrid feature, combining an internal combustion engine with the electric motor, acts as a range extender, recharging the batteries while in flight. It also serves as a fail-safe backup in case of any issues with the electric propulsion system.



The tech onboard the new Cassio 330

The second Cassio 330's maiden flight is expected in the second quarter of 2024. This aircraft will be used for the airworthiness certification programme. VoltAero says the second model will be equipped with VoltAero's full-up hybrid propulsion unit – composed of the four-cylinder Kawasaki Motors thermal engine (with a peak power rating of 165 kW) and a Safran smart electric motor (with a peak power rating of 180 kW).

The French aircraft manufacturer has chosen AKIRA Technologies, a French company specializing in energy conversion systems, for the integration and validation of the Cassio 330. AKIRA will be responsible for designing and developing the hybrid propulsion gearbox, as well as the mechanical integration and ground testing of the unit. Additionally, AKIRA will test and adapt the Kawasaki engine and the Safran electric motor, ensuring seamless integration and optimal performance of the hybrid propulsion system.

The Cassio 330 prototype will feature a full glass cockpit with avionics provided by US-based avionics manufacturer Avidyne. Avidyne will develop a customized avionics suite, including new-generation Quantum 14-inch displays, specifically designed for single-pilot operation. The cockpit panel configuration will highlight a dual Primary Flight Display/Multifunction Display layout with 4K resolution. According to VoltAero, this avionics system will "enhance situational awareness" and "improve the overall flying experience".

Sustainable fuel choices are top of the agenda VoltAero says it is exploring sustainable fuel options for the Cassio's hybrid propulsion unit. Biofuels and hydrogen are among the potential alternatives being considered. VoltAero's Cassio testbed aircraft is currently undergoing flight validations using biofuel, demonstrating the company's dedication to reducing environmental impact.

As part of its exhibit at the Paris Air Show, VoltAero showcased a Kawasaki Motors thermal engine that operates with liquid hydrogen. VoltAero says this technology will be incorporated into future Cassio 330 aircraft, further enhancing their sustainability and contributing to the industry's decarbonization efforts.

The Cassio aircraft family is positioned to cater to regional commercial operators, air taxi/charter companies, and private owners, as well as cargo transportation, postal delivery, and medical evacuation (Medevac) operations.

Source: VoltAero



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The A-29 Super Tucano is a turboprop light attack/armed reconnaissance aircraft designed by Embraer in Brazil and built under license by Sierra Nevada Corp.

The A-29 Super Tucano is the gold standard for light attack, combat and reconnaissance aircraft. Built in the U.S. by SNC and Embraer Defence and Security, Inc., the A-29 has been selected by 16 air forces worldwide and over 260 units have been delivered to date.



The A-29 Super Tucano is a versatile and powerful turboprop aircraft known for its rugged and durable design, allowing it to perform operations from unimproved runways and at forward operating bases in austere environments and rugged terrain with a variety of sensors and precision-guided munitions.

The A-29 Super Tucano is used for missions including light attack, armed reconnaissance, close air support and advanced training. The A-29 fleet reached 500,000 flight hours with over 60,000 hours in combat in April 2022. Embraer reports that the model has been chosen by more than 16 air forces globally.

"In addition to 500,000 flight hours, the A-29 has also accumulated more than 60,000 hours in combat," said Bosco Costa Junior, Embraer Defense and Security chief commercial officer. "In fact, it is the only advanced light attack, reconnaissance, and training turboprop platform currently in production with proven combat capabilities across the world."

The aircraft is equipped with sensors and weapons including an electro-optical/infrared system with laser designator, night vision goggles, secure communications and a data-link package. It is also designed to operate from remote and unpaved runways.

The A-29 Super Tucano is an affordable and effective Combat-Proven solution around the world to perform critical missions on its own as well as in concert with both ISR and traditional fighter platforms.

"Through our experience in the previous war in

Afghanistan, along with our work in locations like Lebanon, Nigeria and the U.S., we've learned that this aircraft can reliably and effectively operate in an extremely cost effective manner across a variety of missions for 20-25 years when properly maintained," explained Ed Topps, senior vice president of programs for SNC's Intelligence, Surveillance and Reconnaissance [ISR], Aviation and Security (IAS) business area. "The avionics are state of the art, the aircraft itself is aerodynamically stable, straight forward to fly and easy to operate, and the four-phase training program has seen pilots achieve proficiency very quickly, giving them the knowledge to not only operate the A-29 but to train other attack aircraft pilots.

SNC's training also includes how to integrate fixed wing attack aviation with other assets, either ground or airborne."

These factors make the A-29 ideal for foreign military sales (FMS) markets. For militaries without the resources of the few global superpowers, the A-29's unrivaled versatility and cost effectiveness means that partner nation forces have a platform capable of meeting mission requirements in even the most unfavorable conditions and harshest terrain. And as the first light attack aircraft in the world to have earned a U.S. Air Force Military Type Certificate (MTC), these customers can also have confidence in the SNC-enhanced A-29's airworthiness.

With a multitude of capable aircraft platforms available on the market today, the A-29's proven effectiveness, affordability, versatility and support from the USAF make it a standout among light attack, ISR aircraft solution. Credit: Sierra Nevada Corporation.





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UJ-22 AIRBORNE is a multi-purpose unmanned aircraft system capable of operating at any time of the day or year, in clear or adverse weather conditions, and under electronic countermeasures.

UJ-22 AIRBORNE can perform tasks for intelligence, search and rescue in the interests of army, police and rescue services.

UAS components:

- UAV with interchangeable payload
- Ground control station
- Tracking antenna system

- Boxes for transportation and storage with high level of protection
- Spare parts tools and accessories set

The UJ-22 Airborne boasts advanced sensors, cameras, and communication systems, allowing it to undertake various tasks. These include reconnaissance, surveillance, target acquisition, and even offensive missions. This drone is equally adept at performing intelligence operations, search and rescue, and supporting the military, police, and rescue services. In addition to carrying ammunition, the UJ-22 Airborne can accommodate a camera and optoelectronic station as part of its payload.

Design and Features

The UJ-22 Airborne drone is a highly versatile and capable drone engineered to perform various missions. With a wingspan of 4.2 meters and a length of 3.7 meters, this drone is designed as a small aircraft. It is powered by a gasoline engine reaching 200 km/h speed. Moreover, it can fly at an altitude of up to 5,000 meters and has a maximum endurance of 8 hours.

This drone is designed to operate under extreme weather conditions, making it ideal for long-term missions. It has an impressive endurance capability of up to 6 hours in harsh weather, ensuring its reliability even in difficult environments. These features make the UJ-22 Airborne drone an effective and dependable tool for various applications.

Payload and Armament

The UJ-22 Airborne drone is a versatile aircraft that



can transport various payloads, including specialized equipment and weapons for missions. With a payload capacity of up to 20 kg, it can carry various munitions such as bombs, mines, or other weaponry. The drone can transport four 82 mm mortar mines or up to six PG-7VM munitions of the RPG-7 anti-tank rocket launcher.

The drone is particularly effective for attacking stationary targets, as it can release its payload on predefined coordinates. This feature allows for precision targeting and maximum impact on the intended target. The UJ-22 Airborne drone also has various control modes to ensure optimal operational performance. Depending on the specific mission requirements, the UAV and payload can be controlled in automatic, semi-automatic, or manual modes.

Sensor and Communication Systems

The UJ-22 Airborne drone has advanced sensors and communication systems that enable it to execute various missions. One of the most critical components of the drone is its 64-megapixel camera, which can transmit real-time images to the ground station. The high-quality imagery produced by the camera is beneficial for reconnaissance and surveillance missions. The drone also features a laser rangefinder capable of measuring distances up to 10 km and a thermal camera that detects objects in complete darkness.

In addition to its sensors, the UJ-22 Airborne drone's communication system is essential for its successful operation. The drone's radio communication system can reach up to 100 km and is encrypted to prevent unauthorized access. When the drone needs to operate beyond the 100 km range, it can autonomously follow

pre-programmed coordinates and elevation. Notably, the drone features an onboard autopilot system that allows it to fly without a GPS signal, making it useful when the enemy employs electronic countermeasures to block the signal.

The communication system between the ground control point and the aircraft relies on a digital two-way encrypted microwave data channel and a digital two-way encrypted UHF data channel. The antenna communication system tracks automatically and provides two independent duplicate data channels to ensure reliability. The UJ-22 Airborne drone is operated by two people, the pilot and the payload operator. The operator and the pilot are seated in off-road vehicles equipped with air conditioning, heating, and climate control systems.

Applications

The UJ-22 Airborne drone is a versatile tool with many applications in military operations. Its primary use is in reconnaissance and surveillance missions, where it can gather valuable intelligence on enemy movements and activities. Thanks to its built-in 64-megapixel camera and thermal imaging capabilities, it can provide high-quality battlefield imagery in real-time, making it an effective tool for target acquisition and tracking.

The UJ-22 Airborne's ability to operate autonomously also makes it ideal for testing hostile air defenses before launching more expensive and capable drones or missiles. With an effective range of up to 100 km, it can gather critical information about enemy defenses and relay it back to ground troops, providing them with accurate and timely information.



In addition to reconnaissance and surveillance, the UJ-22 Airborne can be used for search and rescue operations. Its high-quality camera and thermal imaging capabilities make it an excellent tool for locating and rescuing people in challenging terrain or environments.

The drone can carry various payloads, including free-fall bombs, 82 mm mortar mines, and PG-7VM munitions for the RPG-7 anti-tank rocket launcher. It has a maximum payload capacity of 20 kg and can release its payload on predefined coordinates, making it an effective weapon for attacking stationary targets. It should be noted that the accuracy of hitting a target from a distance of 700 meters has an error of up to 10 meters, which is a relatively high result for uncontrolled ammunition.

To ensure effective operation, the UJ-22 Airborne has a starter generator and an autopilot system developed by the company's specialists. The drone's communication system uses a digital two-way encrypted microwave data channel and a digital two-way encrypted UHF data channel, allowing for secure communication between ground control and the aircraft.

The complex is managed by two people: the pilot and the payload operator, both of whom are located in off-road vehicles with air conditioning, heating, and climate control systems.

Finally, to counteract enemy electronic warfare systems, the UJ-22 Airborne is equipped with the Xens inertial system, allowing it to fly without GPS and maintain the necessary coordinates. If the drone does not detect an

enemy or finds a small target in the barrage zone, it will return and dump unused ammunition in a safe place or land with them, according to Igor Kramarenko.

Technical characteristics

Maximum radius of controlled flight, km 100
Maximum autonomous flight range, km 800

UAVs speed (km/h):

- cruise speed 120
- maximum speed 160
- minimal speed 90

Minimum service altitude, m 50
Maximum service ceiling, m 6000
Maximum flight time, hours 7
Maximum Ground Control Station performance, hours 24/7
Operating temperature, °C -40 ... +50
Payload weight, kg Up to 20
The average UAS set up time (without flight mission input), min 10
The average UAS clotting time, min 5
The average flight preparation time UAV launches, min 3
Takeoff and landing from flight fields with different surface Yes
Operating meteorological conditions Visual and adverse meteorological conditions
External crew, persons 4

Source: [Special-ops.org](https://special-ops.org)



Meet Sara Sabry the Astronaut

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Africa's first woman in space has called for regional and global efforts to enable more Africans to participate in space exploration as part of efforts to advance the continent's socioeconomic transformation.

Sara Sabry, a young Egyptian astronaut, and founder of the Deep Space Initiative made the call recently during a panel at the Africa50 Infra Forum and General Shareholders Meeting held in Togo's capital Lomé. Panelists discussed "A Different View: Africa's future reimagined."

"I don't think space should be such an exclusive club. To be the first at something is to kick down the door for others to follow," Sabry said. "It is important for Africa to have a seat at the table and be involved in space exploration. The demographic in space must reflect that of people on Earth."

Sabry is an international keynote speaker and can be found sharing her experience in entrepreneurship, space travel, technology, and overcoming personal obstacles. Sabry graduated from Lycee Francais du Caire. She earned her bachelor's degree in mechanical engineering from the American University in Cairo in 2016, minoring in biology, chemistry and pre-med. She then went on

to obtain a master's degree in biomedical engineering from the Polytechnic University of Milan in 2020 where her research focused on the use of AI in Robot-assisted surgery.

Sabry is currently working toward a doctoral degree in Aerospace Sciences from the University of North Dakota in the United States, while conducting research on Spacesuit Engineering at their NASA-funded Human spaceflight Lab. In 2021, Sabry participated in an Analog Moon mission simulation as the crew Medical Officer, making her the first Female Egyptian Analog Astronaut.

Sabry founded Deep Space Initiative, a non-profit organization aimed at expanding accessibility to space. The organization offers various programs and initiatives to encourage individuals, especially those from underrepresented groups, to enter the space field. The Research Department allows members to gain hands-on experience in the field, and the Education Department offers course certifications related to Astronaut Health & Performance, Space Architecture, and Space Transportation Systems.

Sabry made history when she traveled to space on the New Shepard rocket developed by Blue Origin, an American aerospace company founded by Amazon's Jeff Bezos.

Speaking during the TED-style event, Dr. Akinwumi Adesina, President of the African Development Bank Group described Sabry as an inspiration.



"As a young African scientist, you give hope that young people can be in space despite the odds. It is often said that women can do what men can do, but I can say that women can do better than men," Adesina said.

Sabry stressed that Africans should pursue space travel. "It is important for Africa to build its capacity in space technology and gain its own control," she said. Experts believe that satellite technology can have a significant impact on rapidly developing African countries by advancing weather forecasting, agriculture, navigation, and even banking and online education.

Sabry also called for a review of laws that restrict people from participating in space exploration.

Sabry's non-profit, the Deep Space Initiative, works to make space exploration more accessible to more people globally. Dr. Victor Oladokun, Senior Advisor to the President of the African Development Bank on Communication and Stakeholder engagement moderated the session. He described Sara as an embodiment of the hope and aspirations of many.

In 2022 Sabry was selected from seven thousand international applicants to participate in the Space for Humanity Citizen Astronaut Program, becoming the first Egyptian, Arab woman, and African woman to go into space. On August 4, 2022 she flew on Blue Origin NS-22 flight, a suborbital flight that reached an altitude of 107 km (66 miles) above sea level.

Sabry has received numerous awards and honors for her humanitarian work, including the IAF Emerging Space Leader Award, and the STEAM Innovation Award. She has also been featured in various media outlets, including Forbes Middle East, Vogue Arabia, CNN, BBC and Al-Monitor.

DID YOU KNOW?

INTERESTING AVIATION FACTS



Tom Stuker is The World's Most Frequent Flyer

The internet and online check-in were first introduced by Alaska Airlines in 1999.

KLM Royal Dutch Airlines established in 1919, is the world's oldest airline. Only 5% of the World's Population have been on an Airplane 80% of the Population has as Fear of Flying

The wing-span of the A380 is longer than the aircraft itself. Wingspan is 80m, the length is 72.7m.

The world-wide 747 fleet has logged more than 78 billion kilometers, equivalent to 101,500 trips to the moon and back.

Total electricity capacity of a 747-8 can power up to 480,000 32inch flat screen TVs.

The winglets on an Airbus A330-200 are the same height as the world's tallest man (2.4m).

PREMIUM ECONOMY VERSUS BUSINESS-CLASS

Airlines love premium economy more than passengers

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The 2023 Skytrax World Airline Awards have just revealed the airlines with the best premium economy service, with Taiwan's EVA Air taking gold this year. Singapore Airlines comes second, up three places from last year followed by Emirates, Virgin Atlantic and Delta, all in the top five in 2022. These rankings were based on the overall experience. When based on the seat alone, Emirates came in at number one, followed by Singapore Airlines, then EVA.

A return flight to Europe in September is going to cost about \$15,000 with a legacy carrier such as Qantas, Emirates or Qatar. To the USA at the same time, between \$10,000- \$13,000 and, for that reason, many one-time business-class travellers who pay for their flights are now choosing to fly premium economy, at less than half the cost of a business-class seat.

Emirates and Singapore Airlines were late adopters of the class but both now feature regularly on any list of the world's top premium economy airlines. Qantas comes in sixth, the same as in the 2022 awards and a creditable achievement since the national carrier over the past year on Skytrax's list of the World's Top 100 Airlines.

What to like about premium economy?

Emirates was a late adopter of premium economy, but was awarded best premium economy seat at the World



Brussels Airlines Premium Economy - A330-300 (BRU-JFK)

Airline Awards.

A premium-economy seat gives you about 15 centimetres more legroom than economy-class passengers endure on the same flight. That's only about the length of a largish phone but when the passenger in front reclines, your knees won't groan. It's also wider, by about 3.8 centimetres over a long-haul economy-class seat. Less than the length of your little finger, but again it makes a difference.

The seat's recline angle is steeper than in economy, but a long way from a lie-flat business-class seat. You're also in a separate cabin and depending on its size you



Brussels Airlines Business Class - A330-300 (BRU-JFK)

might get a separate toilet from economy class. The configuration is typically 2-4-2 or 2-3-2, which means less chance of someone crawling over you to get to the toilet, or having to crawl over someone else. Combined, those elements mean you're probably going to get a better sleep, and arrive smiling.

Other perks include a separate check-in, priority boarding in between business and economy passengers, a more sophisticated menu than economy, a bigger entertainment screen and increased baggage allowance. Japan Air Lines even allows premium-economy flyers into its business-class lounges in Japan and a small number of overseas ports.

Why airlines love premium economy

In a widely quoted presentation in 2019, Harry Hohmeister, head of commercial passenger airline with the Lufthansa Group, called premium economy a "money-generating machine". In terms of the cabin space it occupies, a typical premium-economy seat earns 33 per cent more revenue than a traditional economy seat and six per cent more than a business-class seat.

Without having to provide a lounge, a fancy menu with better food and wines, a higher staff-passenger ratio and all the other frills that come with a business-class ticket, the airline cops a cash shower. In 2019, when Qantas gave its Airbus A380 fleet a makeover, the airline bumped the number of premium-economy seats on some of its superjumbos to 60, up from 35.

Qantas increased the number of premium economy seats on board its Airbus A380 superjumbos during a recent refurbishment.

Airlines have shown unbridled enthusiasm for premium-economy seating. In 2015, the only airlines flying into Australia with premium-economy seats were Qantas, Virgin Australia and Cathay Pacific, and only on some routes. Today, as well as Qantas and Cathay Pacific, that list includes Emirates, British Airways, ANA, Air Canada, Air New Zealand, United Airlines, Singapore Airlines, China Airlines, EVA Air, Delta Air Lines, China Southern, Vietnam Airlines, American Airlines, Air China and Japan Airlines.

And the in-between class

A handful of airlines flying into Australia have another seat option between economy and premium economy. Under several different names including Economy Plus (United Airlines) Comfort+ (Delta), Main Cabin Extra (American) and Economy Space (Etihad), this class gives you enhanced legroom and that's about it. Meal, seat width, baggage allowance are all the same as for standard economy, at a price in between economy and premium economy.

Economy Plus on United Airlines

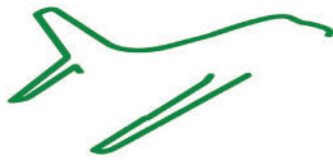
According to Seat Guru, United's Economy Plus flyers get an extra 7.5-10 centimetres of seat pitch and 2.5 centimetres greater recline angle than standard economy seats. Since seat width is the same at 46.2 centimetres, cabin configuration is identical for both Economy and Economy Plus flyers.

For a return flight from Melbourne to Los Angeles in September aboard United, the basic economy fare starts from \$1491. Economy Plus seating adds \$526 to the total, which is \$1782 less than a premium economy seat on the same flight. If all you are after is extra stretch room that Economy Plus seat is probably going to be more attractive than premium economy.

Etihad is the only airline offering this seat category, which it calls Economy Space, on westward-bound flights out of Australia. Seat pitch is 10.2-12.7 centimetres greater than in the airline's standard economy seats. A return economy-class flight from Melbourne to Frankfurt in October with Etihad starts from \$2119. A Space Saver seat on all sectors adds \$824 for a total of \$2943. Japan Airlines' premium economy currently offers good value for flights to Europe.

However, a little research reveals a Japan Air Lines premium-economy seat for the same route, same dates, at a price of \$4163. That seat has a pitch of 107 centimetres against 89 centimetres for Etihad's Economy Space seat, slightly more width between armrests, a greater recline angle plus priority boarding, luggage, upgraded food and beverages and even lounge access for the layover in Japan. That's why I'm flying JAL premium economy to Paris in September.

Credit: Micheal Gebicki



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Flight training can be incredibly rewarding, but prospective students should gain a clear understanding of what they are signing up for. The road to becoming a pilot can be longer than anticipated due to weather delays, aircraft maintenance, and a shortage of Designated Pilot Examiners.

Becoming a pilot is a significant financial investment, with costs ranging from \$65,000-\$100,000. Prospective pilots should explore financing options and consider purchasing an aircraft for training to save costs. Embarking on the journey to become a pilot is a childhood dream for many.

Patience is a virtue

The road to becoming a pilot can be longer than anticipated, even for those who pursue full-time training. One significant factor that contributes to this extended timeline is the unpredictability of weather conditions, particularly during the colder winter months.



Weather delays can disrupt flight schedules, causing training sessions to be postponed and adding extra time to your training calendar. If practical, you might do well to consider moving to a location with consistently sunny weather, like Arizona, for instance, if finishing training quickly is a top priority.

Other delays beyond weather are inevitable, though. In addition to the ongoing pilot shortage, there is



also a current shortage of Designated Pilot Examiners (DPEs) in the US at the moment, requiring many students to wait additional months before moving onto the next rating, simply because they cannot take their checkride as soon as they are ready to.

Financial realities

Becoming a pilot is a significant financial investment. Although student pilots in the US can generally earn their basic private pilot certificate for around \$10,000-\$15,000, the costs to train to be a professional pilot can range from around \$65,000 to over \$100,000, depending on factors such as the type of aircraft used, how quickly a student is checkride-ready, the training location, and the type of school used.

It's crucial to have a realistic understanding of the financial commitment required – and a plan to make it happen – before embarking on this journey.

Prospective pilots can consider exploring various financing options, including loans, scholarships, and payment plans offered by flight schools. Researching and understanding these options can help mitigate the financial burden associated with flight training.

It is also worth mentioning that a lot of flight gear on the market can be very expensive, but a brand new student pilot does not need to shell out top dollar for the best equipment on day one. Start out with basic gear to make sure aviation is for you before springing for the \$1,200 headset and new iPad Pro to keep in the cockpit.

Diverse training paths

In the United States, aspiring pilots have the choice between two main types of flight schools: Part 61 and Part 141 schools. Each type offers a distinct approach to training, catering to different needs and aspirations. Part 61 schools provide flexibility in training, allowing

students to learn at their own pace. These schools can be generally less expensive and are usually best suited for individuals who need to train part-time due to full-time jobs or other commitments.

Expect to study hard

Flight training isn't just about hopping into the cockpit and taking off. Every step of your training journey, from acquiring different ratings to advancing your skillsets, requires diligent studying.

Each new rating requires a written test, and the checkride – comparable to a final exam – consists of both an oral examination and practical flying assessment. Aspiring pilots must be well-versed in aviation theory, regulations, procedures, safety protocols, and plenty more.

Consistency is key

Efficient flight training demands consistency. Aspiring pilots should aim to train at least two or three times per week to maintain progress and build upon their skills. Irregular training schedules can lead to skill degradation and a higher likelihood of forgetting what you've learned between lessons – thus requiring additional training hours and necessitating a higher ultimate price tag.

While the road to becoming a pilot may have its challenges, the rewards are immense. The thrill of taking control of an aircraft and navigating the skies is an experience that few others can claim. With determination, preparation, and the right mindset, aspiring pilots can navigate the complexities of flight training and soar toward their dreams.

Credit: MATTHEW AUSTIN RYAN



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Communication is the lifeblood of getting an airliner from its origin the destination. Communication is essential in any crewed operational environment, whether on the water, air, or land. Let's briefly talk about what good communication is and what it isn't in the airline world.

Good communication

Good communication between pilots shouldn't be confused with chattiness. A willingness to talk about topics that are mutually interesting to everyone on the flight deck isn't always a given. As is true outside of aviation, many pilots don't share much in common with



their colleagues and, accordingly, find it easier to pass the time quietly.

Pilots don't all fit into the same place on the same social spectrum, and some aviators prefer not to talk much. There certainly is no disrespect or lack of operational cohesiveness to this type of quieter flight deck, but rather two people who respect each other yet mutually enjoy their thoughts more than conversation.

Strong communication in the flight deck is typified by a crew that knows which "triggers" during a flight constitute a briefing, checklist, or discussion. Obvious trigger points include closing the boarding door, commencing the before-start checklist, or nearing the top of the descent and completing the arrival briefing.

As pilots gain experience, they can tacitly understand when to speak up about operational matters not tied to checklists and formal flows. An example would be the flying pilot pointing out the weather in front of the aircraft and sharing their thoughts about a deviation course, such as flying left or right. Another example will be the pilot monitoring asking for continued descent on behalf of their flying colleague if they are coming up on an intermediate level-off when it is advantageous to keep descending.

Communication & SOPs

Communication is the foundation for standard operating procedures (SOPs). Part of every airline's SOPs is verbalizing any change to the mode control panel (MCP). The MCP is located just below the glare shield on most modern airliners and is where pilots make inputs to control the autopilot.

When altitude, heading, or speed is changed, it's the responsibility of the flying pilot who made the input to verbalize what they have done. The monitoring pilot must verify their actions, verbalize the change, and point out any contradictions between the desired outcome and the selection. This flight deck communication is a technique, is an SOP, and is second nature to pilots who work in crewed environments.

Good communication is most easily broken during stressful and quickly-developing situations. Approaching bad weather, last-minute runway assignment changes, or short taxis at busy airports are scenarios where flight deck communication can break down. A rule of thumb that pilots know well is to slow down if it feels like essential statements



are unheard by one's colleague. All crew members have tasks to accomplish during busy operations, but briefings and SOPs still apply. When things feel rushed, good pilots step back and communicate their mutual plan for the task at hand.

It's abundantly clear that communication is integral to the operational integrity of airlines. What's less obvious is what good communication is. Rather than a strong bond between the pilots, good communication is understanding what must be said and the unscripted observations that are tacitly understood to be necessary. Communication doesn't require friendship but rather respect, professionalism, and collegiality.

Credit: Jack Herstam - an airline pilot

Aircraft flaps and how they work

A flap is a high-lift device used to reduce the stalling speed of an aircraft wing at a given weight. Flaps are usually mounted on the wing trailing edges of a fixed-wing aircraft. Flaps are used to reduce the take-off distance and the landing distance. Flaps also cause an increase in drag so they are retracted when not needed.

Flaps Down - Camber



Flaps Up - Camber



Using flaps gives you three distinct advantages in your plane:

- You can produce more lift, giving you lower takeoff and landing speeds.
- You can produce more drag, allowing a steeper descent angle without increasing your airspeed on landing.
- You can reduce the length of your takeoff and landing roll.

There are 4 primary flap designs, and each of them have advantages and disadvantages. Here's how they work;

1) Plain Flaps

The simplest flap is the plain flap. Plain flaps hinge to the back of the wing, and they pivot down when you extend them. However, they're fairly limited in the amount of lift they can create. That's because as air moves over the wing, it loses energy and starts to separate from the wing. By extending flaps, the airflow separation is even more pronounced, creating a large wake behind the wing. But you can use that wake to your advantage. The drag

created by the wake lets you fly a steeper descent to landing without increasing your airspeed.

2) Split Flaps

Split flaps are flaps which deflect from the lower surface of the wing. Split flaps produce slightly more lift than plain flaps, but like their plain counterparts, they also produce a lot of drag.

Split flaps are pretty uncommon these days, but you can find them on the wings of several war birds at your local airshow.

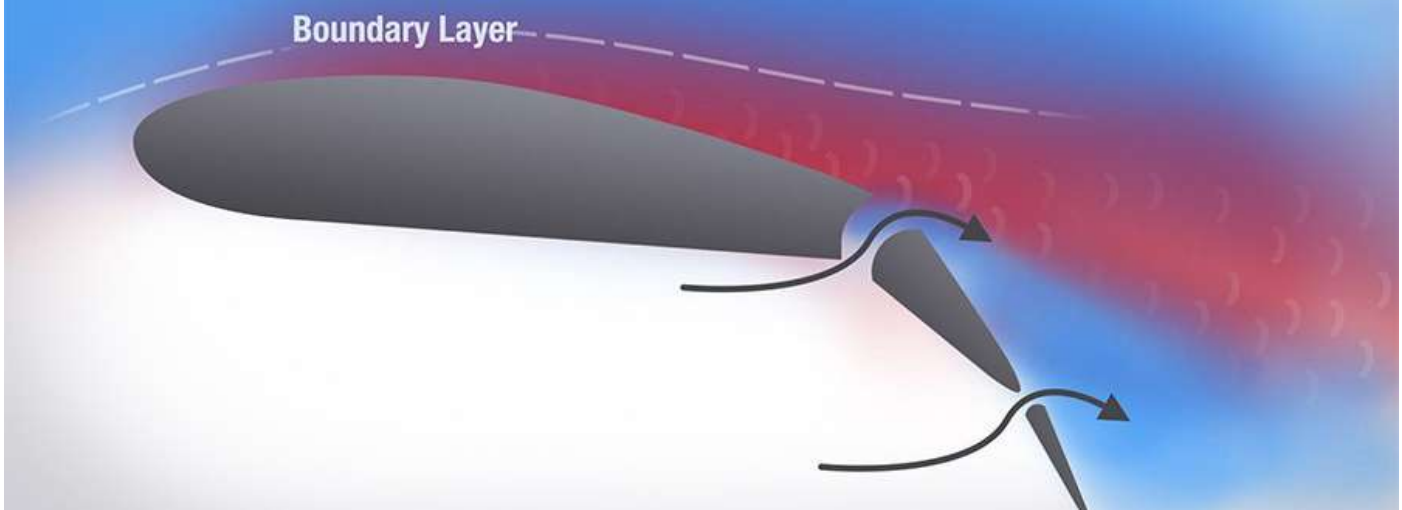
3) Slotted Flaps

Slotted flaps are the most commonly used flaps today, and they can be found on both small and large aircraft. Two things make them so special;

- They increase wing camber, like other flaps
- When extended, they open a slot between the wing and the flap

By opening a slot between the wing and the flap, high pressure air from the bottom of the wing flows through the

Fowler Flaps - Extended



slot into the upper surface. This adds energy to the wing's bound by opening a slot between the wing and the flap, high pressure air from the bottom of the wing flows through the slot into the upper surface. This adds energy to the wing's boundary layer, delays airflow separation, and produces less drag. This results in lots of additional lift, without the excessive drag.

4) Fowler Flaps

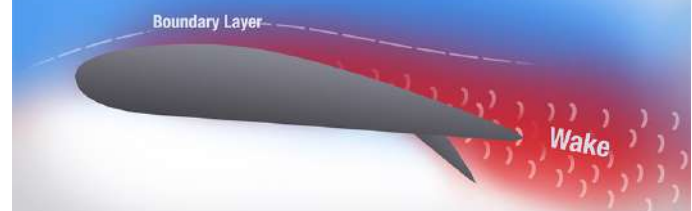
When you need serious lift, you need serious flaps, and Fowlers are there to make it happen. Fowler flaps increase the area of your wing by extending out on rails or tracks. Fowler flaps often have a series of slots to add energy to the airflow as well - they're called slotted-Fowler flaps.

In the first stages of a Fowler flap's extension, there's a large increase in lift, but little increase in drag, making the setting ideal for takeoff in a large jet. As they continue to extend, the flaps move downward more and more, creating a little more lift, but a lot more drag.

Generally, the purpose of the flaps is to change the shape of the wing so that it can make more lift at lower speeds. This enables pilots to approach runways at steeper descent angles and helps them avoid obstacles. To activate the flaps, the pilot has a control in the cockpit. The control placement depends on the plane, but it is generally mounted on the panel and has a handle that looks like a flap. The switch usually has detents (notches) built in to allow the pilot to set certain flap settings.

Credit: Colin Cutler

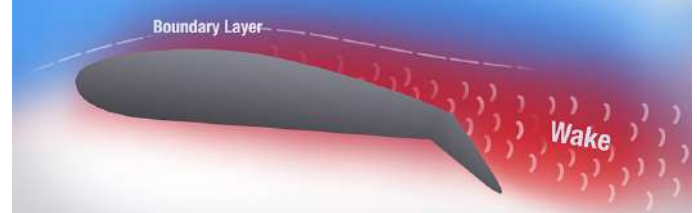
Split Flaps - Extended



Slotted Flaps - Extended



Plain Flaps - Extended



Materials used to construct aircraft

By Maximillian Philberth Kalukamisa

To ensure the safe, effective, and economical operation of the aircraft during all phases of flight, structural materials are carefully chosen during the design, repair, and maintenance (MRO) of the aircraft and its parts.

The structural materials used in an aircraft part are chosen based on one or a combination of numerous desirable features. The desirable characteristics include the capacity to withstand abrasion and penetration (hardness), the ability to withstand deformation (strength), the power to be bent or twisted without breaking (ductility), the potential to return to its original size and shape after a load is removed (elasticity) the tendency to conduct heat or electricity (conductivity) the strength to weight ratio and fatigue resistance.

Different parts of the aircraft must be manufactured and maintained with a specific quality and properties of structural materials because of the amount of load, stress, exposure to various environmental factors like extreme heat and fire, the purpose of the aircraft (subsonic or supersonic), reliability, and many other factors. Steel alloys, aluminum alloys, composite materials, plastics, rubber, fabrics, and woods are some examples of these materials. The main uses for the material in an aircraft are decided by its properties as follows:

Chromium Steel

Chromium Steel is a metal with excellent levels of hardness, strength, and corrosion resistance. Together with nickel, it is used to make propeller

reduction gears because it provides resistance to corrosion and fatigue. Catalyst Engine by GE Aviation used to power Beechcraft Denali: Photo:GE

Chrome Nickel

Chrome nickel, also called stainless steel, is corrosion-resistant. It can be rolled, drawn, bent, or molded into any shape, thereby making it suitable for aviation springs, tie rods, and control cables.

Chrome-molybdenum steel

Chrome molybdenum is a strong steel, more resistant to corrosion and wear, and high temperature resistant. It's suitable for welding, making it primarily appropriate for welded aircraft structural parts and assemblies. It's used in the production of fuselage tubings, engine mounts, landing gears, and other structural parts.

Aluminum

Aluminum is a popular metal in construction of various aircraft parts such as stringers, bulkheads cowlings fuselage skin rivets and extruded sections.

It's widely used due to its excellent strength-to-weight ratio, improved corrosion resistance, high damage tolerance fracture toughness relative simplicity in manufacturing being non-magnetic and superior conductivity.

Magnesium Alloys

Magnesium becomes stronger when alloyed with trace amounts of zirconium, aluminum, zinc, and manganese making magnesium alloys have a superior strength to weight ratio than aluminum alloys.

Wheels for airplanes, gearboxes, valve bodies, turbine engine compressor



Main landing gear from masteel.co.uk

casings, piston engine crankcases, fuel tanks and fluid lines have all been made with magnesium alloys. Magnesium alloy is selected when weight reduction is a crucial factor in reinforcing aluminum aircraft structures and highly stressed, thick portions of the airframe.

Nickel alloy

The nickel alloy such as monel and inconel have the ability to maintain strength and resistance to corrosion even in settings of extremely high temperature. They are a good option for aviation engine exhaust systems, turbine engine blades and gears.

Copper

Copper is a metal with excellent electrical conductivity, ranking second after silver. Its great weight limits its use as a structural material. However, its high electrical and heat conductivity, malleability and ductility in many cases outbalance the weight factor chosen in making wires. It has been used in aircraft's electrical systems for bus bars, bonding and lockwires.

Titanium

Titanium is a metal with a high strength to weight ratio, although heavier than aluminum. It has excellent corrosion resistance qualities and can resist brief exposure to temperatures of 1650°C and is effective in high temperature applications like aircraft fire walls.

Composites

The most cutting-edge materials for building modern aircraft are composites. They consist of two or more materials that differ in composition or form and when combined, produce an extremely tough, durable and versatile material.

They cite several benefits of having a material with a high strength-to-weight ratio and good corrosion and fatigue resistance. Composites are less sensitive to sonic vibrations than conventional sheet-metal structures (they have superior vibration resistance), and they have fewer parts and less expensive assembly expenses. They also feature a lighter design and the capacity to achieve a smooth surface, which lowers aerodynamic and parasitic drag.

Plastics

High performance engineering plastics are lightweight relative to other industrial materials, making them suitable for the aerospace application. Aerospace-grade plastic sheets are strong, impact- and vibration-resistant, long-lasting, chemically and fire-resistant, and resistant to cleaning agents.

Plastics are used in airplanes to make the cabin interior, aircraft canopies, and glass transparency. Tray tables, arm rests, and seat backs are also made using them.



Synthetic Rubber

Synthetic rubber are polymers synthesized from petroleum byproducts and are widely used in aircraft in construction of thermal insulation, window and door seals, LED lighting gaskets, instrument panel seals and engine gaskets, hydraulic actuators, bleed air valves and fittings, firewall seals and vibration dampening.

Synthetic rubber suitable for aviation usage are selected for being resistant to water, high temperature range operation, resistant to wear and tear, high endurance threshold under extreme stresses, high sound and shock absorption and long life span.

Woods

Sitka spruce, birch, ash, and douglas fir are the four types of wood that are frequently utilized in the manufacture of aircraft. In addition, gabon, mahogany, balsa, and pine have specific uses. These woods must meet a number of requirements in order to be certified for use in aircraft structural construction, including a moisture content of 12 percent, a minimum of 6 annual rings per inch, and a maximum slope of grain of 1 inch per 15 inches.

Due to their light weight, resistance to splitting and bending, stiffness, substantial strength to weight ratio, and long life when properly conserved, woods are chosen to be used in various aircraft for the building of structures such as propellers, spars, wing tips, and longeron.

Fabrics

Although metal and composite construction has taken the lead nowadays, fabric-covered airplanes were formerly the most common kind. Some special-purpose aircraft, such those used for agricultural purposes or when renovating antique aircraft, employ fabric as one of the structural elements.

Cotton, linen, polyester, and glass filament are used to make fabrics that are approved for use on aircraft. Fabrics have the benefit of being lightweight but the drawback of lacking durability and quickly catching fire in airplane structures.



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When you're dealing with a short runway, or a runway with an obstacle near the end of it, you need to adjust your approach and landing to safely touch down and stop on the runway. So what are the steps of a good short field landing? We'll break it down into four phases: approach to landing, clearing an obstacle, touchdown, and rollout.

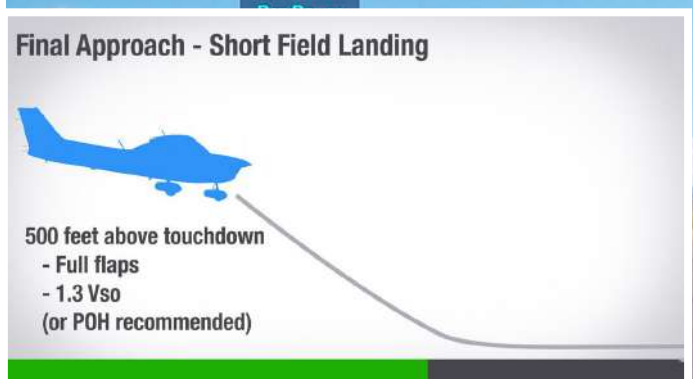
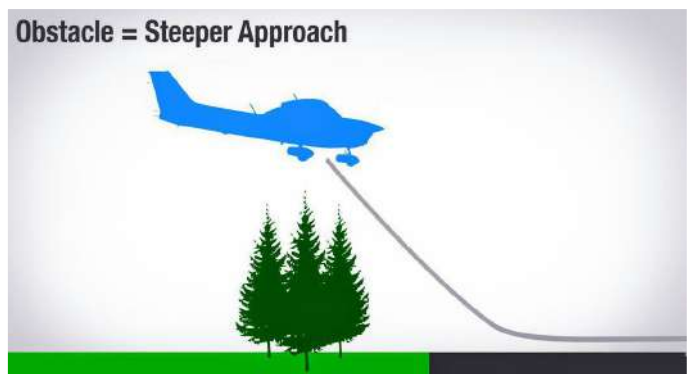
Approach to Landing

To make a great short field landing, you need to be in complete control of your airspeed and descent rate. When you're stabilized, on speed, and on glide path, you can touch down where you want, prevent your plane from floating down the runway, and stop well before you run out of runway.

All of this starts with your approach.

The Airplane Flying Handbook recommends that you fly a slightly wider-than-normal traffic pattern, so that you have plenty of time to configure your aircraft and make sure you're stabilized on your approach. You don't necessarily need to do this, but it's not a bad idea. The more time you give yourself to get stabilized, the better your landing will (most likely) be.

There are a few more things to consider when flying your pattern: if your POH doesn't suggest a final approach speed, you should fly final approach with full flaps, at 1.3 V_{so}.



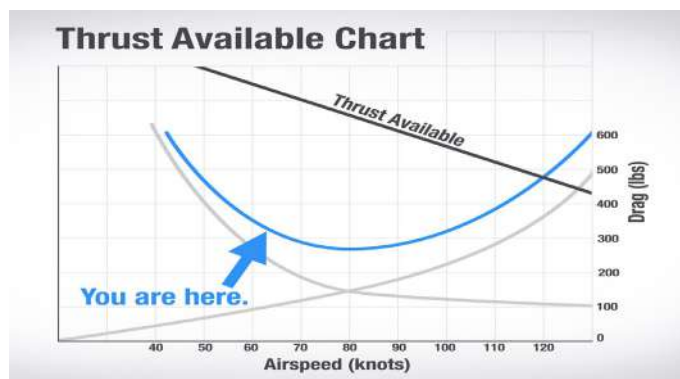
For example, if your plane has a V_{so} of 47 kts and your POH doesn't list a final approach speed, you'd use, $47 \times 1.3 = 61$ knots. Fly 61 knots on final, and you'll have a good setup for landing.

Getting comfortable with flying a stabilized approach in this configuration can be one of the most challenging parts of a short field landing. That's because when you're configured for landing on your final approach, you're on the back side of the power curve. That means you use power to adjust your glide path, and pitch to adjust your airspeed.

It can take a few tries to get this down. A good way to practice is to fly a pattern all the way down to short final, go around, then try it again. After a few trips around the pattern, you'll feel like a pitch/power pro.

Clearing an Obstacle on Final

If you have an obstacle at the approach end of the runway, you'll want to fly a slightly steeper-than-normal approach as well. By flying a slightly steeper angle, you can safely clear the obstacle, and not use up too much runway before you touch down. The steeper your glide path, the more runway you have available to touch down.



But flying a steeper approach has its disadvantages. Since you're flying a steeper descent angle, and you have a high-than-normal descent rate, you really need to judge flare. You'll need to pitch up more in the flare to overcome the descent angle, and to arrest your descent rate for a smooth touchdown.

Timing the flare on a short field landing really comes down to practice. Flare too late, and you'll land hard. Flare too early, and you can stall early and develop a large sink rate. Neither scenario is good, nor the best way to avoid either one is to practice, and then practice some more. The more stable your final approach path, the more likely you are to make a good landing.

Touchdown

Next up is the moment when all your hard work comes together: touchdown. As you approach the runway, you want to slowly start reducing your throttle to idle. Keep in mind this differs significantly based on the airplane you fly. If you're flying a lighter airplane with light wing loading, you'll want to start reducing the throttle as you approach the runway threshold. If you're flying a plane with higher wing loading, you'll want to keep the power in a little longer, so you don't get too slow or come up short of your landing point.

Rollout

Once you touchdown, you want to use maximum aerodynamic braking. After you touch down, slowly start pulling back on the yoke, being careful not to lift back off. As you increase your aerodynamic braking, you keep more weight on your main gear. That, in turn, makes your brakes more effective, because you can apply more brake pressure before your wheels lock up. Be gentle as you apply the brakes, then start increasing braking pressure to slow down.

It's easy to lock up your wheels when your ground speed is still high, and your wings are producing a lot of lift. Keep pressure on the brakes until you know you're slow enough to make your taxi turnoff, then gently start to let up on the brakes. Smooth application of your brakes is the key to a good landing rollout.

Common Problems with Short Field Landings

Short field landings can take some practice before you're comfortable with them. Here are some common problem areas you'll want to think about before you head out and start practicing:

- Too much airspeed on final, which causes floating down the runway
- Excessive descent rate on final, which can lead to a hard touchdown
- An unstabilized approach, where you oscillate between slow and fast descent rates, flying above and below glide path
- Over-braking on rollout, and locking up your wheels (nobody likes flat spots on the tires!)
- Setting the nosewheel down hard, instead of controlling its touchdown (remember, your nosewheel isn't nearly as strong as your mains)

Source: [Boldmethod.com](http://boldmethod.com)

A flight attendant's guide to flying with kids

Traveling with younger fliers can be both fun and challenging. A Delta Air Lines flight attendant and father shares some advice from his years up in the air.



By Jane Makena

Flying with babies and kids of any age can bring with it a whole host of emotional, physical, and logistical challenges. Add to that long airport lines and potential flight cancellations and delays, and, well, it can push even the most battle-hardened, well-traveled parents and caregivers to their limit.

Despite the potential hurdles, families should be made to feel welcome when they fly, says Tony Dong, a Delta Air Lines flight attendant since 2011, and more recently, a father to his now three-year-old daughter. In the sky, he aims to encourage and support families on their journeys and offers some great advice for coping with the travel stress.

"Children can help parents be better prepared as travelers themselves," says Dong, noting that no matter how hard we try to anticipate all the needs that might arise, traveling with kids teaches parents how to quickly improvise and change course.

Having worked on everything from long-haul flights to shorter domestic routes, Dong has witnessed and assisted a lot of families in-flight here's his advice for those getting ready to fly with kids.

1. Be flexible and embrace the unexpected

It's known that kids thrive on routine. That's why so many families develop bedtime rituals and daily schedules to get their kids to follow good eating, sleeping, and behavioral habits (in theory, at least). When you're on the





road, though, keeping to any kind of schedule becomes a lot more challenging, if not impossible. For parents and caregivers, that means their kids could behave in ways they don't usually behave when they're in the comfort of their own home.

On flights, children can do things that are "very unexpected," says Dong, noting that children become very unpredictable when they're placed in new and different environments.

2. Know that you're not alone

So many parents have been in the position that Dong was in on his overnight flight, with a fussy baby or crying child they cannot seem to quiet. Every parent and caregiver is different, but for many, the anxiety of not being able to calm down a child in addition to the pressure of disturbing a plane full of strangers only amplifies the mounting stress of the situation. Rather than feel overwhelmed in solitude, Dong says that parents should see flight attendants as their allies when a baby or child is upset or unwell.

"We totally understand," says Dong. "We try to give our best support because I know no parent wants their child to cry for four or five hours." He says flight attendants can offer some items that might aid the situation, whether it's extra blankets for comfort or snacks as a distraction. Some flight attendants will even offer to hold the baby or walk with the child to give the parents a break.

3. Explore the benefits of booking and boarding early

Many airlines offer families with babies and young children the opportunity to board early. The question is, is it better to get on the plane and get settled a little earlier or to let kids get their wiggles out until the last possible minute and then usher them onto the plane?

Dong says he would advocate for getting onboard early.

"Because the airplane is such a new environment for children, having them board early and take in the environment so they can be more comfortable" can benefit the child and the caregiver, says Dong. He notes that then the airplane is "less of a shock to them."

Families should consider booking their flights early, too. The earlier families book, the better access they will have to a more open seat map and making sure they have seats together. It helps to have flexibility to choose seats that best serve the family's needs (many kids love window seats, for instance). Remember: Basic economy fares don't usually include the option to pick your seats, which can put families in a bind if they aren't seated all together.

4. Toys and tech are your friends

Whether you're a parent who embraces screens or one who prefers simpler distractions (such as toys and books), pack those kid-friendly amenities, says Dong. "Definitely bring toys," whether that means an iPad (and headphones) or a device loaded with your kid's favorite shows, crayons and a coloring book or paper, books, or small cars, bring items that will help amuse and entertain your children for the duration of the flight.

Another key item for many tiny travelers, he notes, is something that can bring them comfort from home like a familiar blanket, small pillow, or stuffed animal.

5. Bring flight-friendly snacks

Of course, airlines will serve some snacks or sell meals, but it's not always a guarantee that kids will want what's on the menu. Plus, kids can be frequent snackers. You'd be smart to make sure they have their own stash.

When asked what kinds of snacks families should consider bringing with them on the plane, Dong notes that anything "that easily is packed," is great. Things like chips and crackers that are "dry."

Bringing extra bags to serve as temporary trash containers until the flight attendants come around to collect the refuse can also help keep the whole snack situation contained.

6. Kids with their own seat get their own carry-on, too

When it comes to packing said snacks and distractions, parents might feel they are already pushing their limit as far as what they can bring onto the flight.

"Some parents might think, oh my god, I'm already carrying so many things," says Dong. But remember, he adds, as long as they aren't traveling as a lap child, "Your children also have a personal allotment of bags they can have to carry on. So even if the gate agents say, 'Oh, why are you carrying four things?'" you can remind them that the items include those that are for any younger travelers in your group.

Despite her young age and the fact that the return flight was challenging, he still contends that "it's definitely worth it" to travel with children. They bring a fresh perspective, he says.

Credit: Michelle Baran



Uganda Civil Aviation Authority is upgrading Entebbe International Airport for a better passenger experience



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