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Intelligence Now

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## AI and the Skies: Why Africa's Aviation Industry must embrace Artificial Intelligence Now

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As Africa's aviation industry continues to grow—with a projected 5.4% annual passenger growth rate over the next two decades—airlines, regulators, and aviation schools across the continent face a crucial question: how can we leapfrog legacy systems to deliver safer, smarter, and more sustainable air travel? The answer lies in embracing Artificial Intelligence (AI). Once considered futuristic, AI is now a practical, affordable, and necessary tool for modern aviation operations, and it holds the power to revolutionize the African skies.

One of AI's most immediate applications in Africa lies in flight optimization and operational efficiency. For instance, Nairobi's Jomo Kenyatta International Airport and Lagos' Murtala Muhammed Airport are two of the busiest hubs in Sub-Saharan Africa, yet they often suffer from flight delays and ground-handling bottlenecks. Tools like TripAI's **iAssist** use real-time data, weather trends, aircraft load, and air traffic congestion to help dispatchers plan more efficient flight paths. Imagine an Ethiopian Airlines dispatcher receiving AI-powered route suggestions that reduce fuel burn on the Addis Ababa–Accra leg by 8%, saving both costs and



emissions. That's not sci-fi—it's already in play in parts of Asia and the Middle East, and Africa can't afford to be left behind.

Beyond efficiency, AI is also transforming maintenance and safety, two areas that have historically challenged African operators. Aircraft parked in hangars in Lusaka or Entebbe for prolonged periods might miss key maintenance windows simply due to a lack of data consolidation. With predictive maintenance, AI analyzes thousands of data points from aircraft sensors to forecast mechanical issues before they happen. In an African context where resources are limited, this translates to fewer breakdowns, longer asset life, and reduced downtime—ultimately improving airline profitability and passenger trust.

But AI's impact isn't just operational—it can help airlines serve the modern African traveler better. As more passengers across West and East Africa book flights online, AI-driven customer service chatbots (like those already used by FlySafair in South Africa) can handle booking queries, baggage information, or last-minute rebookings without frustrating delays. AI can also personalize offers based on passenger behavior, such as suggesting meal options for Muslim travelers during Ramadan or alerting business travelers about loyalty upgrades. This enhances customer satisfaction and brand loyalty in a market where service differentiation is still underdeveloped.

In a continent defined by both potential and pressure, Artificial Intelligence offers African aviation a chance not just to catch up, but to lead. The key lies in intentional adoption—partnering with platforms like TripAI, investing in AI education at aviation schools, and collaborating across borders to share data and resources. The sky isn't the limit anymore—it's the beginning. And with AI, Africa's aviation industry can finally fly with precision, power, and purpose.

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Afema Ronnie is a dedicated aviation sustainability leader and business development strategist with a robust background in sustainable air transport management. Holding both a Master's degree in Sustainable Air Transport Management and a Bachelor's in Business Analytics, he is also a licensed pilot with extensive experience in the aviation industry. As an award-winning sustainability advocate and recipient of the African Aviation Sustainability Award 2023, Afema has driven transformative climate action within the sector.

His expertise spans strategic business development, project management, and the implementation of pioneering sustainable aviation practices. Through his work as an aviation journalist and AviaDev Ambassador (2022), Afema continues to influence industry advancements and champion innovative solutions for a greener future.