

WORLD AIR NEWS

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ANTARCTICA BECKONS ⁰⁶



WHAT MAKES AN AVIATOR? ²⁰

WHEN SKILLS AREN'T ENOUGH ⁰⁴

BRIDGING THE EXPERIENCE GAP ³²

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AIRBUS A350 WHO IS REALLY FLYING?



The modern aircraft can navigate, manage thrust, optimise performance and monitor its own systems. Across aviation, automation and AI are assuming tasks once performed entirely by people. The challenge is no longer whether technology can do more, but whether the people responsible for it retain the knowledge, experience and judgement to know when to trust it, when to question it and when to take control. *Image Credit: ©Airbus*

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06



12



16



23



WORLD AIRNEWS

CONTENT

01 PEOPLE & EXPERIENCE

Aircraft, missions and people at work. We begin in the air, exploring extraordinary endurance, scientific and conservation missions, and the changing aircraft shaping general aviation and training.

- 02 Who Is Really Flying?
- 04 When Knowing Is No Longer Enough
- 06 Familiarity As The Ultimate Data Set Interview – Shannon Wong
- 12 Flight Path For Survival
- 16 The Hands Behind The Journey – François Denton, Executive Aircraft Refurbishment
- 20 A Good Pilot or A Good Aviator – Karl Jensen

22 TRAINING COMPETENCE

Aviation depends on more than attracting people. It must give them access, build genuine competence and create the experience, specialist knowledge and judgement needed to operate safely.

- 23 Closing The Distance – Lindie Bruyns, Henley Air
- 28 Stay Ahead Of The Flight – Pieter Smith, EFO College
- 32 The Experience Gap – Dawit Lemma, AfBAA
- 36 The True Cost Of Training Shortcuts – Joey Schulz, Simuflight

38 PEOPLE & TECHNOLOGY

What happens to the human role as aircraft, systems and digital workers become increasingly capable.

- 38 Beyond The 20-hour Cockpit
- 42 The Return Of The Owner Pilot
– Kevin Fouché, Bristell
- 48 The Aviation Skills Shift
– Nilopal Ojha, MarketandMarkets
- 50 Aviation Security Is Still A People
Business – Yolanda Vermeulen,
Ardent Aviation Group

46 DEFENCE

- 46 Rosoboronexport Puts Africa In Focus
at AAD 2026 – Yury Laskin

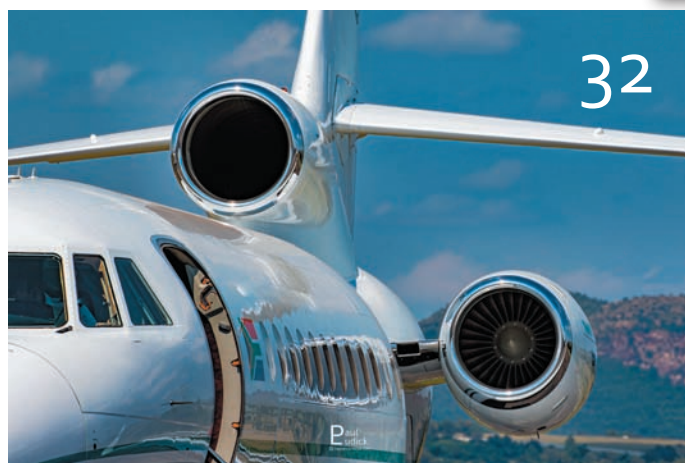
53 TRUST & RESPONSIBILITY

When aviation systems are challenged, trust, judgement and accountability become inseparable.

- 53 Protecting African Airspace: Why Trust
Matters More Than Technology
– Victoria Lebogang Mofolo,
VLM Aviation Infrastructure
Advisory (Pty) Ltd
- 56 Good Crew Bad Crew
– Johan Lottering, Book Review

58 HANGAR TALK

- 58 A Man For All Seasons – Rob Garbett



32



36



42



46

WHEN KNOWING IS NO LONGER ENOUGH

Technology is changing what aviation professionals can do. The more difficult question is whether it is changing what they still need to know.

IMAGE CREDIT: © PEXELS Garrison Gao

There is an interesting tension running through this edition of World Airnews.

Almost everywhere we look, aviation technology is extending capability. Aircraft can remain airborne for extraordinary periods. Software can process information faster than any individual. Artificial intelligence is beginning to influence training and operational decision-making.

Air traffic services are moving towards remote and increasingly automated environments, while unmanned aircraft are adding an entirely new category of user to already complex airspace.

None of this is inherently a threat to the people working in aviation. Much of it is progress we should welcome. Better information, better systems and better tools can reduce workload, improve efficiency and give people capabilities previous generations could scarcely have imagined.

But capability and competence are not the same thing. That distinction kept surfacing as we worked through the stories for this September edition.

In our conversation with Pieter Smith of EFO College, we encountered a profession most passengers barely know exists. Flight operations personnel work behind the aircraft, interpreting weather, routing, fuel, performance, restrictions and changing operational conditions. Modern software can do an extraordinary amount of the processing for them, but Smith's concern is what happens when the person looking at the answer no longer understands how that answer was reached.

It is why EFO still teaches students to work from aircraft manuals and build a flight plan themselves before relying on a computer-generated solution. The point is not nostalgia for an analogue age. It is understanding.

You cannot meaningfully question a system if you do not understand what it is doing.

The same question appears elsewhere in this magazine in very different forms.

We look at increasingly automated air traffic management and ask what the controller's role becomes when machines can process surveillance data, predict conflicts and recommend solutions. We consider a future airspace shared by conventional aircraft and rapidly growing numbers of unmanned systems. We look at the skills aviation will require as software and AI take over more routine functions.

And then there are the stories that remind us what happens outside the neat boundaries of technology.

A conservation survey over Zululand depends on a helicopter, GPS coordinates and systematic data collection, but it also depends on a pilot holding the aircraft in the right position while observers search difficult terrain and specialists interpret what they are seeing. The technology enables the mission. People make the mission work.

That distinction becomes even more striking in Alexey Rodokanakis's story about Shannon and her Antarctic project. Here is a young aviator preparing to fly exceptionally long single-pilot sectors over one of the least forgiving environments on Earth, carrying scientific

equipment she has helped develop and relying on systems that have been tested repeatedly before the aircraft ever points south.

One of the most interesting ideas to emerge from Shannon's preparation is that confidence is not enough.

Familiarity has to be built through repeated exposure until the behaviour of an aircraft, an instrument or a system becomes known well enough for a deviation to be recognised.

That is a very aviation way of looking at technology.

We should not fear the machine. We should know it.

Perhaps that is the real transition aviation is confronting.

For much of the industry's history, acquiring competence meant learning how to do things. Increasingly, technology can do many of those things for us. The skill therefore moves elsewhere. It lies in knowing what to ask, what to question, when to intervene and when the apparently correct answer does not fit the situation in front of you.

That requires something more difficult to teach than procedure. It requires judgement.

And judgement does not arrive with a licence, a certificate or a software update. It develops through training, repetition, mistakes, mentorship and experience. That is why the experience gap explored elsewhere in this edition matters so much. When experienced people leave aviation, we do not simply lose a pair of hands. We risk losing knowledge that may never have been written into a manual in the first place.

There is another side to this transition that aviation cannot ignore. As systems become easier to operate, the barrier between access and understanding can become dangerously thin. A highly capable drone can now be bought by someone with almost no knowledge of the airspace into which it may be flown. AI can produce a convincing answer for a student who has not done the thinking required to reach it. Automation can make an operation appear simple precisely because generations of complexity have been hidden behind the screen.

That is not an argument for slowing innovation.

It is an argument for ensuring that human capability advances with it.

This September edition is therefore not really about training, although training runs through many of its pages. Nor is it an edition about technology. It is about the space between the two.

It is about the instructor who teaches someone to question the computer, the controller whose role changes as automation enters the tower, the experienced aviator who knows when circumstances do not look quite right, the craftsperson whose hands recognise something a specification cannot describe, and the young scientist-pilot who understands that preparation matters most when the environment stops behaving as expected. Aviation will continue to automate. It should.

The challenge is to make sure that as the machines become more capable, the people around them do not become less so. ✂

FAMILIARITY AS THE ULTIMATE DATA SET

*Interview with Shannon Wong
by Alexey Rodokanakis*



Flying over Greenland. IMAGE CREDIT: © Shannon Wong

In October, Shannon Wong plans to leave England alone in a Diamond DA62 and fly to Antarctica by way of the Americas. She will carry a radar survey she designed herself into a corridor of the East Antarctic interior that has never been accurately measured. She has not yet set foot on the continent, and at twenty is attempting a series of world firsts. World Airnews asked her how a single person builds enough trust (in the aircraft, the instruments and herself) to attempt such a voyage.

The aircraft came first. Wong chose the aerodyne with a pen and a list: she wrote down what the mission required, and the requirements settled the question before preference could intrude. The dominant constraint turned out to be not speed, range or payload, but fuel.

"Antarctic stations do not have avgas," she says. "Their logistics are built around larger commercial aircraft and jets. The DA62 uses Jet A-1 through its diesel-cycle engines, so the aircraft speaks the same fuel language." Jet A-1 is also cheaper and more widely available, which matters across a route touching some thirty-six countries. Two engines followed from the constraints of ocean crossings. The Southern Ocean region alone exceeds 2,400 nautical miles, and propulsion redundancy over water of that width is not a refinement. Six seats, a technicality resulting from the science, because seats can be removed and instruments installed in their place.

Asked whether the decision was pragmatic rather than emotional, she agrees that it was and then adds: "Although it does look nice."

This is a small exchange, but it establishes the register of everything that follows: Wong reasons from constraints outward, and she is entirely unsentimental about the machine she is about to trust her life to.

That scientific payload is not incidental to the flight. It is the reason the aircraft, route, fuel plan and risk calculus have been shaped so tightly: the expedition is meant to produce useful data, not simply reach a symbolic point on the map.

Twenty Centimetres

The aircraft must carry snow-penetrating radar, precision laser altimetry and multispectral imaging into terrain where larger survey aircraft cannot economically operate. Wong is working on the radar with the Center for Remote Sensing of Ice Sheets at the University of Kansas, whose systems supported NASA's Operation IceBridge over the same continent.

The problem they keep returning to is coupling. "If you move an antenna by twenty centimetres, you can drastically change the radio-frequency performance," she says. "You can change structural nodes, cable loss, drag, and certification work. It becomes a systems-engineering problem."

The DA62 has no nadir ports (the openings through which a survey instrument looks straight down at the ice), so a pod is being fabricated for the belly of the aircraft. That introduces a drag penalty which cannot be waved away, because drag is fuel, fuel is range, and range is what the Antarctic sectors have least to spare. An antenna is also required in the nose, which means finding a way to link nose to belly across the airframe. None of this is glamorous, and all of it is load-bearing.

The Least-Mapped Landscape

Wong's account of the data gap is necessarily her own. Dr Ted Scambos, the glaciologist at the University of Colorado Boulder who has advised the project for three years and who worked out the flight path with her, was asked by World Airnews what the survey can realistically contribute.

His answer begins with the scale of the gap. "The flight path Shannon and I have worked out covers some of the least-mapped landscape on any continent on Earth," he says. "Shannon's science instruments will probably be able to map the bedrock below the ice, this is critical to computer models of how much ice the Antarctic continent holds and how and where it will flow into the sea if warming continues." He adds that the upper layers of the ice sheet hold unresolved questions about changes in snowfall and about the structure of ancient ice now lying near the surface.

What sits beneath an ice sheet governs how it behaves: the shape of the rock determines where ice can flow, how quickly, and whether a retreat once begun will stabilise or accelerate. A model working from an unmeasured base is working from an assumption.

On the obvious objection (that a single light aircraft cannot survey a continent) Scambos concedes the point before it is put to him. "Obviously, by itself, one flight cannot do much to map a continent. But Shannon and I are committed to integrating the data with the hundreds of flights that have already been used to create ever-improving maps of the Antarctic bedrock and the ice sheet layering." He will work with her to analyse and publish the results, and to see that they enter the library of Antarctic expedition data.

That is the answer to whether data gathered from a light twin is scientifically usable. It is usable because it is cumulative. No individual survey flight establishes much on its own, including those flown by dedicated research aircraft.

But the observation most likely to interest this readership concerns the aircraft rather than the ice.

"What is special about Shannon's flight is that she is making use of the latest, most compact technology for the instrumentation she is installing — on a small, highly advanced civil aviation aircraft. In a way, this is a pioneering effort at simplifying what it takes to conduct these flights." — Dr Ted Scambos

This is a distinctly aviation focused comment. Airborne polar surveying has historically demanded large,

specialised and expensively operated aircraft. If instrumentation has miniaturised to the point where a certified light twin can carry a useful scientific payload into the Antarctic interior, the constraint on how often such surveys happen shifts from what science can afford to what a pilot can reach. Wong's expedition is a test of that proposition as much as of the corridor she is flying over.

Leaking Less

Wong obtained her private pilot licence two years ago and then, over roughly four months, completed the multi-engine rating, the commercial licence, high-performance and complex endorsements, tailwheel work, and the instrument rating. The compression has attracted attention, and she is briskly dismissive of the idea that anything unusual happened.

"There was no secret training method. I just flew constantly," she says. "I used the same standards and the same check rides. The difference was spacing."

Then the sentence that reframes it entirely: "I was not learning twice as fast; I was leaking less between sessions."

"I was not learning twice as fast; I was leaking less between sessions."

Anyone who has trained conventionally will recognise the loss she is describing. An instructor leaves for an airline. A school changes. Weather breaks the rhythm for a fortnight and then a month. "Suddenly you are paying to relearn something you were proficient in two months ago." Her point is not that intensive training is superior in some abstract sense but that the conventional pathway carries an attrition cost which is rarely counted, and that compression is better understood as a time-management decision than as an act of endurance.

What The Windscreen Takes Away

In an edition concerned with immersive simulation, it is worth recording plainly that Wong did not use any.

"Unconventionally, I did not do simulation specifically for this expedition," she says. She played a little with Microsoft Flight Simulator; her laptop kept overheating. Her only formal simulator time was the hours required for the instrument rating.

What she did instead was spend several weeks in northern Norway, hauling a fifty-five-kilogram sled (approximately her own body weight) across mountains for around eight hours and roughly twenty-three miles a day. Mornings began at five or six. Snow was dug, melted in a pot, and poured into dehydrated expedition food. Hot water went into a bottle, which was the only heat source at night at around minus twenty, and which cooled in the small hours so that one woke freezing. She injured her hip and pelvis in the course of all this.

Her explanation for this substitution is the subtly interesting thing she says about her Arctic training. "Polar survival has almost nothing to do with flight training, and that is exactly why I needed it. In an aircraft, most of the

environment is abstracted away. You look at it through a windscreen, and you are kept inside an aluminium box that gives you warmth, speed, and shelter. On the ground, all of that disappears."

"In an aircraft, most of the environment is abstracted away. On the ground, all of that disappears."

A simulator abstracts further still. It is a particularly good instrument for rehearsing procedure, system knowledge, and decision-making under artificial pressure, and it is by construction incapable of teaching what it costs to be cold, wet, hungry, and required to think in hostile environmental conditions. Wong's preparation is not an argument against simulation. It is an argument about which parts of the problem simulation is effective in preparing for. If the aircraft puts her down on ice with no realistic prospect of recovery, the part it cannot replicate is that which decides the outcome.

The Jurisdiction Of A Checklist

Most emergency training assumes a recoverable ending. Something fails, a procedure is run, the aircraft diverts and lands, and help is available on the ground. Over the Antarctic interior, none of those assumptions necessarily hold. Asked how one prepares for a situation with no procedural answer, Wong offers a formulation that is worth reading twice.

"I believe a checklist has a jurisdiction, and then at some point it ends. That does not mean you throw away procedure. You use it aggressively while it still describes the world you are in."

"A checklist has a jurisdiction, and then at some point it ends."

A checklist is not a guarantee; it is an authority that holds within a bounded territory and lapses outside of it. Recognising the boundary is a different skill from executing the procedure, and it is the skill that matters when the environment stops matching the manual.

"Survival equipment matters, but equipment only buys you option value. It does not make the decision for you."

Her working rule is to arrive over-prepared and still assume something will not match the plan. She credits her habit of independent study for this mental approach.

She walked into subjects with no teacher standing beside her and worked out what mattered, what was noise and whom to ask. Applied to survival and to flying, she says, this approach carries over seamlessly.

The Tired Version Does Not Get A Vote

The Antarctic sectors run sixteen to twenty hours single-pilot. The conventional treatment of fatigue in such a flight is to monitor oneself and act when performance degrades. Wong rejects this premise.

"There is no magic hour where judgement suddenly



Landing in Kulusuk Greenland. IMAGE CREDIT: © Shannon Wong

turns bad, and I think that is a dangerous way to think about fatigue," she says. "I expect degradation before I necessarily feel it."

What follows from that is a pre-commitment structure. Diversion criteria are fixed while she is rested and are not available for renegotiation later. "Instead of asking myself at hour fourteen whether I still feel sharp, I set the gates while I am rested. Once fatigue is material, the tired version of me does not get a vote on fuel, weather, or whether we keep going."

"Once fatigue is material, the tired version of me does not get a vote on fuel, weather or whether we keep going."

In a two-crew flight deck, the second pilot is among other things a check on the first, a person who can observe deterioration the affected pilot cannot see in themselves, and who has the standing to intervene. Wong does not have this person. What she has built instead is a version of herself, located in the past and in better condition, holding authority over the version who will be flying at hour fourteen. It is a functional substitute for a monitoring pilot, constructed out of the only material available. The rest is prosaic: sleep beforehand, deliberate hydration and food, automation used where appropriate, and an alarm wired to her headphones to beep at intervals.

Off When Heavy, On When Normal

Asked where she draws the line between what she automates and what she refuses to, Wong's answer is patent and inverts the intuitive arrangement. Automation goes off at the beginning of the flight, when the aircraft

is heavily loaded and not behaving as it does at standard weight. It goes on in cruise, once the aircraft is behaving as the manual says it should. During climbs and during the survey work itself, she cannot simply hand everything over.

The logic is that automation is trustworthy in proportion to how well the situation resembles the one it was designed for. A heavily loaded aircraft in an unfamiliar configuration is precisely where the machine's assumptions are least reliable, and the human's attention is most needed. This is close to the opposite of how automation is often used in practice, which is to reduce workload when workload is highest.

The same reasoning extends to the instruments. "I believe trust is a lagging indicator," she says. "I do not want to arrive in Antarctica and decide emotionally that I trust the system. I want months of baseline behaviour before that system ever becomes critical." The internal questions she runs are diagnostic rather than affective: what does healthy look like; what does the power system do at different loads; which numbers move a little and which normally do not; what does an antenna problem look like before it becomes an antenna failure.

And then the sentence that could stand as the thesis of this entire edition:

"An anomaly is only visible against a baseline. Confidence is a feeling; familiarity is a data set."

A test flight in Kansas will establish how the radar and the other instruments actually behave rather than how they should behave theoretically. She is candid that the radar returns cannot be assessed in flight in any meaningful way: the wavelengths bounce off the ice sheet and

are recorded, and the detailed scientific judgement of whether the data is good happens afterwards. What she can monitor is whether the system is behaving like itself. That is the whole of what a single operator can do, and it is why familiarity must be established months before it is required.

Five Devices And A Layered Failure

Navigation is layered rather than duplicated. The Garmin G1000 is primary, with independent portable receivers, tablets, phones, a laptop, and separate batteries beneath it (five devices in total) though Wong notes the qualification herself: they can depend on the same upstream GPS source. Redundancy in hardware is not redundancy in signal. Communications run on HF, which will reach over exceptionally long distances, together with satellite.

The route runs from the Chilean side through West Antarctica, across the interior survey areas and the South Pole region, then east towards Queen Maud Land (directly south of South Africa) and north to Cape Town. She plans to fly the Antarctic legs in December, in the southern summer. She has never been to Antarctica. "I have never set foot there, so it is completely new to me."

A friend who flew there in a single-engine aircraft met sixty-knot winds; that is the sort of figure that must be built into the fuel margin in advance, because it cannot be negotiated in the air.

Being Useful To Experts

The expedition has also attracted radar support from the Center for Remote Sensing of Ice Sheets at the University of Kansas, and contributions from researchers connected with ESA and NASA. How an independent project with no university and no government behind it reached that level of engagement has a surprising answer.

"I became obsessive about being useful to experts," Wong says. "I read their papers first and researched their work. I did my homework before approaching them." She then had to build a programme around the project substantial enough that a formal airborne science campaign could be credibly proposed to university researchers. That programme is EARS, the East Antarctic Radar Survey. She estimates she has spoken with more than a hundred scientists.

It is a reversal of the usual direction of travel. The conventional route into a research collaboration runs through an institution, which supplies the credential; Wong had no institution, so she supplied the reading instead. She is also a Fellow of the Royal Geographical Society, introduced to it by Sir Ernest Shackleton's granddaughter, whom she met in London.

Which Came First

The expedition, which she also identifies by the alias GIRLFLIESWORLD (GFW), carries a set of record attempts alongside the science, and Wong is straightforward about the order in which they arrived. "Coming from

aviation before moving into the scientific field, I thought of the records first. I wanted to advance the frontiers of aviation. Then, as a researcher who is deeply interested in science, I realised I also wanted to advance the frontiers of science."

The records she describes pursuing include becoming the first woman to fly solo to the South Pole and the first woman to fly to all seven continents westbound, with applications made to Guinness World Records. Her stated reason for pursuing them is instrumental: they are the mechanism by which the expedition becomes visible to people who would not otherwise encounter it.

First Generation

Asked about the roots of her independence, Wong traces it to an early habit of first-principles thinking. She asked why, and then usually asked a deeper why. That habit mattered because few ready-made paths were available to her. She is a first-generation pilot, with no family background in science, academic research of this kind, or aviation. She paid her own way, supporting herself through internships, and learned early to build the structure she needed rather than wait for one to be presented to her.

On the question of prejudice, her answer is characteristically without self-pity. "I take a different approach towards prejudice. I use it as a reinforcing force to improve something. It becomes motivation. I do not settle for other people's opinions about me." She would like to draw women into science and engineering. She would also, she says, like young people who have been told their ideas are too ambitious to watch someone do something large and revise their estimate of what is available to them.

Start Before You Feel Coherent

This edition is concerned with how people fit into an aviation system growing steadily more automated, and with who the industry trains and trusts. Wong built a scientific expedition without a university, an institution or a government behind her. Asked what she would say to a twenty-year-old holding an idea for which the system has no obvious place, she does not reach for encouragement.

"Start before you feel coherent. Action is a better information-gathering technology than introspection ever was."

"People waste years trying to discover the identity that justifies the work," she says. Do something small enough that failure is cheap. Send an email. Build the crude version. Read the paper you think is above you. Ask the leading people in a field questions specific enough that they might eventually be willing to teach you.

It is advice that describes precisely what she did, and it is consistent with everything else in her method: decide while you can, keep the cost of being wrong low, and do not wait for a feeling to arrive before you begin. ✂

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KwaZulu-Natal Vulture Survey Project. IMAGE CREDIT: © Bateleurs

FLIGHT PATH FOR SURVIVAL

For five days over northern KwaZulu-Natal, an Alouette III flew carefully planned low-level routes over some of the region's most important vulture breeding areas. Bringing together a volunteer pilot, conservation specialists, observers, digital mapping and an aircraft well suited to aerial observation, the survey produced valuable new data and led to a remarkable discovery.

There are aviation missions in which success is measured not in passengers carried or cargo delivered, but in what can be seen, recorded and understood from the air.

From 25 to 29 August 2025, an Alouette III helicopter flew low-level survey routes across northern KwaZulu-Natal as part of the Wildlife ACT Zululand Vulture Survey. On board, pilot and conservation specialists were engaged in a highly specialised task: searching for and assessing the nests of some of the region's most threatened vulture species.

By the end of the five-day operation, the helicopter had flown approximately 18 hours and the team had gathered data that would contribute to the continuing understanding and monitoring of Zululand's vulture populations.

The survey also confirmed something remarkable: an active Hooded Vulture nest containing a large chick, the first active nest of the species recorded in KwaZulu-Natal and the southernmost breeding site recorded for the species.

Behind the discovery was a carefully coordinated aviation and conservation operation.

A Survey Built Around Flight

The Zululand Vulture Project dates back to 2004 and brings together Wildlife ACT and Ezemvelo KZN Wildlife to monitor and conserve the region's vulture populations. The large-scale helicopter surveys form part of a wider monitoring effort that also includes fixed-wing surveys undertaken by Ezemvelo and ground-based monitoring and nest verification by Wildlife ACT.

The 2025 helicopter operation was designed primarily to assess breeding Lappet-faced and White-headed Vultures, while also surveying important African White-backed Vulture nesting areas and investigating a reported potential Hooded Vulture nest near Phongola.

The aviation component came from The Bateleurs. Volunteer pilot Martin Schulze provided both his Alouette III, ZU-RIK, and his services as pilot, giving the conservation team the aerial platform needed to conduct the five-day survey.

Flying at approximately 50 to 75 metres above ground level, the helicopter allowed observers to systematically search the landscape and, when something was spotted,

move away from the planned survey track for a closer examination.

It was aviation not simply as transport, but as an integral part of the survey itself.

Knowing Where To Look

Long before ZU-RIK lifted into the air, considerable work had gone into determining where it should fly.

Detailed flight paths were developed around known nesting locations, while a spatial model was used to identify potential White-headed Vulture nesting habitat. The 2025 flight plan was also adapted in response to what conservationists had learned about changing vulture distribution, with greater emphasis placed on selected African White-backed Vulture areas.

There was also a particular location the team wanted to investigate: a reported potential Hooded Vulture nest near Phongola.

Historical records, conservation knowledge, spatial modelling and planned flight paths established where the search should begin.

What happened once the helicopter reached those areas depended upon what the people aboard could actually see.

When a nest was located, Schulze would deviate from the planned transect and circle it, allowing the conservation team to establish its location and activity status, identify the tree species and record other observations. Photographs were taken where necessary.

Once the observation was complete, the helicopter returned to the planned survey track and the search continued.

Data gathered during the operation was captured digitally using Survey123.

The sequence sounds simple, but it demonstrates how closely the flying and conservation work were connected.

People, Aircraft And Information

The survey team brought together personnel from Wildlife ACT and Ezemvelo KZN Wildlife.

Wildlife ACT's Anel Olivier and Megan Hudson, together with Ezemvelo KZN Wildlife's Brent Coverdale and Eduard Goosen, formed part of the conservation team, with personnel assisting with navigation and observation during the operation.

At 50 to 75 metres above the ground, each sighting required coordination between the person flying the aircraft and the people gathering the information.

The observers needed enough time to confirm each nest's location and activity status, identify the relevant tree species and record their observations before the helicopter returned to the survey transect.

The technology provided another layer. Historical information helped establish where vultures had previously nested. Spatial modelling helped identify

where White-headed Vultures might be found. Survey123 provided a digital means of capturing the information gathered during the flights.

Ultimately, though, somebody still had to look out of the helicopter and find the nest.

The mission is an interesting example of something increasingly relevant across aviation: technology did not remove the human element from the operation. It gave the people involved better tools with which to do their work.

Five Days Over Zululand

The operation began from Mpila Camp in Hluhluwe-iMfolozi Park before the team moved north to the uMkhuze section of iSimangaliso Wetland Park.

The flying was only one part of the operation.

Wildlife ACT and Ezemvelo KZN Wildlife assisted with accommodation, flight paths and the necessary approvals, while The Bateleurs' Steve McCurrach and Donovan Bailey worked with support from Shiptech to ensure sufficient aviation fuel was available.

It is an aspect of specialist aviation that can easily disappear behind the photographs of an aircraft in flight. Eighteen hours of productive survey flying over five days required an aircraft and pilot, but it also required fuel, operating bases, permissions, conservation personnel, observers, navigation, data capture and carefully prepared flight paths.

Each element had to support the others.

And when they did, the helicopter gave conservationists a perspective over a vast area that complemented the information being gathered through fixed-wing and ground-based monitoring.

What They Found

The results of the 2025 survey presented a mixed picture. Four nesting Lappet-faced Vulture pairs were recorded,



compared with three during the 2021 helicopter survey. For the White-headed Vulture, the picture was considerably more concerning: no nests were recorded during the 2025 survey, and the last known active nest in KwaZulu-Natal had been recorded in 2018.

At Opathe Game Reserve, however, African White-backed Vulture nesting activity showed an increase. And then there was the Hooded Vulture.

The team investigated the reported nesting location near Phongola and confirmed an active Hooded Vulture nest containing a large chick.

It was an important find. The nest was the first active Hooded Vulture nest recorded in KwaZulu-Natal and the southernmost breeding site recorded for the Critically Endangered species.

Its discovery extended the known breeding range and provided conservationists with important new information for future monitoring and protection. It was also a very tangible demonstration of what the aerial survey had made possible.

Aviation With A Purpose

The Bateleurs occupies an unusual position within southern African aviation.

Its volunteer pilots and aircraft owners make their aircraft and flying skills available to conservation and humanitarian organisations, providing access to aviation capability that might otherwise be difficult or costly to obtain.

The Zululand survey demonstrates the practical value of that model.

The aircraft provided the aerial platform. Martin Schulze provided the flying. Wildlife ACT and Ezemvelo KZN Wildlife brought the conservation knowledge, navigation, observation and data collection. The Bateleurs and its supporters helped make the operation logistically possible.

None of those elements tells the whole story by itself. Together, they produced something useful. The 2025 Zululand Vulture Survey ultimately generated locations, photographs, observations and data that can be carried forward into conservation work.

Behind those data points was a very human sequence of events: planning a route, preparing an aircraft, positioning fuel, securing approvals, flying the transect, scanning the landscape, spotting a nest, communicating the sighting, circling the location, observing, recording and moving on.

And somewhere along that flight path near Phongola, the process revealed something nobody had previously

confirmed in KwaZulu-Natal: a Hooded Vulture raising a chick. For a species under enormous pressure, it was a small but significant discovery.

For aviation, it was another reminder of just how much can become visible when the right aircraft, the right skills and the right people are brought together for a purpose.



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François Denton CEO Executive Aircraft Refurbishment. IMAGE : ©WAN

THE HANDS BEHIND THE JOURNEY

Why human skill still defines aviation excellence.

By Judi Rodokanakis

The workshop is quieter than you expect. There is no sense of hurry. At one workstation, leather is being worked carefully around the contours of an aircraft seat. Nearby, a veneer panel is being restored, its damaged surface gradually disappearing beneath the hands of someone who knows precisely what can be saved. Elsewhere, another aircraft waits for the next stage of its transformation.

These are the details passengers seldom see. By the time an aircraft returns to service, they will see the finished cabin, the polished veneer, the precise stitching and the paintwork. What they will not see are the hours of judgement, correction and accumulated experience behind them.

Spend some time walking through Executive Aircraft Refurbishment with François Denton and his brother Raymond, however, and those largely invisible skills become difficult to ignore.

François does not speak about them in grand terms. In fact, he seems far more comfortable discussing a troublesome piece of veneer or the behaviour of leather than talking about himself. But perhaps that is because, for him, aircraft refurbishment has never really been

something observed from behind a desk. "There is no gap between myself and the workshop," he says.

It is a simple comment, but by the end of our visit it has come to explain a great deal.

Learning By Doing

François Denton's aviation story began long before Executive Aircraft Refurbishment opened its doors in 2018.

While still at school, he spent weekends and holidays at Grand Central Airport, volunteering wherever people were prepared to let him help. Engineers, painters and aircraft interior specialists became his informal introduction to an industry he simply wanted to be around.

There was no carefully constructed career plan behind it. He was interested in aircraft and wanted to learn.

After leaving school, that curiosity became a profession. Denton trained across aircraft interiors, aircraft survival equipment and aircraft paint systems, developing practical experience in disciplines ranging from upholstery and carpeting to cabin panelling, finishing and paint.

It was an education built around doing the work. That distinction matters because aircraft refurbishment can easily be mistaken for decoration. The beautifully finished cabin is certainly the part everyone notices, but underneath it sits an environment governed

by engineering limitations, material specifications, certification and regulation.

"It has to be beautiful," François tells us, "but it also has to comply with every specification."

Aviation does not give a craftsman complete freedom.

The leather, carpet, adhesives, laminates, coatings and other materials used in an aircraft cannot simply be selected because they look good. Weight matters. Durability matters. Traceability matters. Materials have to be appropriate for their aviation application and meet the relevant requirements.

"There are times when you want to go crazy with an idea," François says with a smile. "But aviation doesn't allow that."

And perhaps that constraint is part of what makes the work interesting. The challenge is not simply to imagine something beautiful. It is to find a way of making that idea work inside an aircraft.

The First Seat

There is one story François tells almost in passing that probably reveals more about the way Executive Aircraft Refurbishment operates than any formal description of the company could.

When his team begins a new interior, he will often make the first seat himself.

He works through the contours, stitching, seams and finish until he is satisfied with it. Only then does the seat go to the rest of the team.

It becomes the benchmark. The craftsmen are not being asked to interpret an abstract idea or merely follow an instruction. They have the finished standard in front of them and their task is to reproduce it across the remaining seats.

François still lays out aircraft striping himself. He inspects finished work and moves easily between the different areas of the workshop. When another pair of hands is required, those hands can still be his.

Raymond is equally at home among the workstations, and walking through the facility with the brothers changes the way you look at apparently simple things.

Take leather. To most of us, the immediate question is probably whether it looks and feels good. Raymond sees something else. Leather is a natural material and it moves. It stretches with use. A seat that looks immaculate when it leaves the workshop still has to look right after someone has spent years sitting in it.

The craftsman therefore has to think beyond the finished product in front of him. He has to understand what the material is likely to do later.

That knowledge is difficult to capture on a drawing.

It comes from having worked with the material before.

"We'd Rather Save It"

A damaged veneer panel provides another glimpse into that thinking.

The panel had arrived at the workshop badly cracked beneath its original clear finish. Replacement might have been the obvious solution. Instead, the team stripped

back the damaged coating, repaired the imperfections, reapplied the finish and polished the veneer until the character of the original material emerged again.

"We'd rather save it," Raymond says.

It is an understated comment, but an interesting one.

Restoration is not simply about saving money. Where practical, it allows the character of an aircraft to survive the refurbishment. Cabinetry can be refinished. Components can be restored. An interior can be renewed without automatically throwing away the craftsmanship that was already there.

It also requires judgement. Someone has to know what can be saved, what cannot, how far a material can be worked and when replacement really is the correct answer.

As we move through the workshop, it becomes increasingly obvious that no two aircraft ask quite the same questions.

A corporate aircraft used for executive travel has different requirements from a charter aircraft operating multiple sectors every day. Helicopters bring different challenges again, while older aircraft can require an approach that preserves their character without compromising the standards required for continued operation.

Owners are equally individual. Some arrive wanting understated interiors. Others prefer stronger contrasts and more distinctive finishes. Dark veneers can create an entirely different cabin from lighter laminates. Leather combinations, carpeting, cabinetry and exterior paint all contribute to the personality of the finished aircraft.

The job begins, therefore, not with manufacturing something, but with listening. What does the owner want? How is the aircraft used? What can actually be achieved? And how do you reconcile those ambitions with the physical aircraft and the requirements that govern it? Those conversations take place long before the finished cabin emerges.

Passing It On

Perhaps the most important work happening inside Executive Aircraft Refurbishment is also among the least visible.

Experienced craftsmen are teaching younger people. New employees are exposed to different disciplines within the workshop, including upholstery, panelling, carpeting and finishing. Over time, their individual strengths begin to emerge. Experienced team members demonstrate techniques, watch the work, correct it and allow skills to develop through repetition.

There is no shortcut to that process. A younger employee can be shown how to stretch leather around a seat, but learning how much tension the material needs and anticipating how it will behave with age requires experience. Someone can explain how a veneer should be repaired, but recognising when it is worth restoring is another kind of knowledge.

Much of that understanding passes from one person to another almost informally, at the workbench and around the aircraft. The workshop becomes the classroom. It is one of the most interesting aspects of our visit because



IMAGE : ©WAN

aviation talks constantly about skills. We discuss shortages, training pipelines, automation and the changing nature of work, often at an industry-wide level.

Here, the challenge becomes very tangible. A skill survives because somebody who knows how to do something takes the time to show somebody else.

Watching the team work, there is also a noticeable pride in the detail. People point things out to us. A stitch line. The grain of a veneer. The finish of a cabinet. A subtle combination of leather colours.

These are details most passengers may never consciously notice.

Knowing Where Your Job Ends

There is another side to the work that is less visually impressive but just as revealing.

An aircraft refurbishment project inevitably reaches beyond the refurbishment workshop itself.

If sheet-metal work is required, the appropriate maintenance specialists become involved. Avionics work belongs with avionics specialists. Structural repairs have to follow the relevant manufacturer instructions and approved maintenance procedures.

François and Raymond are quite matter-of-fact about this. They know what they do, and they know when another specialist needs to take over.

That may sound obvious, but it says something important about how aviation actually functions.

The beautifully completed aircraft the owner eventually receives is seldom the product of one company working in isolation. It can represent the combined contribution of refurbishment craftsmen, engineers, maintenance organisations, avionics specialists and others, each responsible for a particular part of the aircraft and each working within the limits of their own expertise and approvals.

Trust, in that environment, is not an abstract concept. It depends on people knowing their responsibilities and respecting those of the specialists working alongside them.

The finished aircraft may look seamless. The work behind it seldom is.

When The Client Arrives With Ai

Then there is the newest member of the design conversation: artificial intelligence.

François is already seeing clients arrive with AI-generated images showing what they would like an aircraft interior or paint scheme to look like.

He does not dismiss them. Quite the opposite. The images can provide an excellent starting point for a conversation. They allow an owner to communicate an idea that might otherwise have been difficult to describe. The problem comes when the digital idea meets the physical aircraft.

An AI-generated seat does not necessarily understand the structure beneath the upholstery. A striking exterior design may look wonderful as an image while failing to follow the geometry of the actual airframe. A cabin

concept may ignore the physical dimensions, materials or requirements that determine whether it can be built.

François's response is pragmatic. "AI gives us a direction," he says. "Then we translate that into something that can actually be built."

It is difficult to think of a better illustration of the relationship between technology and human judgement.

The technology has not threatened the craft. It has simply added another tool.

Digital rendering can help owners visualise ideas before work begins. New materials continue to create possibilities for durability, weight and finish. Design tools will become increasingly sophisticated.

But sooner or later, somebody still has to look at the aircraft.

Somebody has to understand what sits beneath the leather. Somebody has to decide whether the veneer can be saved. Somebody has to know how a material will behave after years of use. Somebody has to recognise when another specialist needs to become involved.

And somebody has to teach the next person how to do those things.

The Hands Behind The Journey

By the end of our visit, François's comment about there being "no gap" between himself and the workshop makes considerably more sense.

His own career began by standing alongside people who knew more than he did and learning from them. Decades later, he is still on the workshop floor, but now some of the people standing alongside him are learning from his experience.

There is a pleasing continuity in that. Aviation is changing rapidly. Artificial intelligence, automation and increasingly sophisticated digital systems will alter many of the ways aircraft are designed, operated and maintained. Those developments deserve the attention they receive.

But there is another kind of technology inside a workshop like this: knowledge accumulated slowly through years of doing the work.

It is there when Raymond looks at a piece of damaged veneer and knows it can be saved. It is there when a craftsman anticipates how leather will stretch long after the aircraft has left the hangar. It is there in the first seat François makes before asking anyone else to make the second.

And it is there when an experienced pair of hands stops for a moment to show a younger pair how something should be done.

The aircraft will eventually leave the workshop. Its owner will see the new interior, the restored finishes and the completed paintwork.

Most will never see all the decisions behind them.

Perhaps that is precisely the point.

When craftsmanship is done properly, the work looks effortless. What remains largely invisible is the experience that made it possible. ✂

A GOOD PILOT OR A GOOD AVIATOR

After a lifetime in aviation, Karl Jensen reflects on the Training Captains, technical lessons and cockpit culture that taught him an enduring lesson: knowing how to fly an aircraft is only part of becoming an aviator.



IMAGE: ©WAN

In my experience as a pilot at South African Airways from 1968, I was happily exposed to several type conversions as I slowly climbed the seniority ladder. It amazed me that there were individuals hell-bent to get the technical lectures out of the way as quickly as possible – and of course some who were irritating by their continuous questioning of the lecturer of work that we had covered.

The standard of the lecturers was exceptional in the Airline by dedicated former technicians or aircrew, as so many of my colleagues will attest to. A mentor of mine, a former Air Force pilot in the Korean war, had said to me before I was accepted into the airline, that to beware of every word of your technical lectures. Any question in an exam that you give the wrong answer for, will catch you out. The same would apply to facts that you did not fully understand. He was so right.

The procedure for a type conversion, was a week or two or more of classroom, followed by intensive simulator training and then actual flight training. When qualified after flight training, and your license was suitably endorsed, route flying would take place initially with an instructor and finally after usually more than the minimum number of required sectors. This procedure was to ensure that you were competent on the routes that the airliner type that was to be operated and in as varied weather as possible. The final release to everyday line flying was to be vetted by an appointed Check Captain, also as an audit of not only your performance, but of the product the Training Section supplied.

Of course, it was inevitable that mistakes were made – sure enough, I was caught out in the simulator sessions that followed where certain items that might've been regarded too lightly. Looking back, those Training Captains reinforced my determination to be the very best pilot I could be. Their high standards, demanding

though they sometimes were, shaped my career far more than I appreciated at the time. It was a lesson that paid handsome dividends throughout my years with South African Airways and beyond

When SAA pilots were scheduled to fly on an international flight and lived withing a certain distance of the airport, company transport would be provided. On an occasion when I was collected, the Captain I was to fly with asked me whose scooter that was in our garage?

When I told him it was mine, he angrily said that it had better be gone soon and was not appropriate for an airline pilot in uniform to ride. "You have a golden career ahead of you and you will destroy it by having an accident and injuring yourself on that thing!" I did dispose of it and sure enough a golden career followed. In retrospect that Training Captain reinforced my resolve to do the best I could – it paid off handsomely.

There were individuals who were just pilots because they had been fortunate enough to be selected for the job and some who saw the opportunity to move in a glamorous world. Opportunities arose to become Training Captains because by some, that bypassed the seemingly glacial movement up the seniority ladder. There were many who were natural aviators with polished ability where one could see perfection in their handling of the airplanes and inspiring dedication to their tasks – this was infectious and in my view those individuals inspired one to be the best and, in some respects to make the dedicated individual proud of their progeny.

As SAA expanded rapidly, the Training Section struggled to produce enough pilots to meet demand. At the same time, several low-cost international airlines had collapsed, leaving many experienced British pilots looking for work. SAA conducted recruitment roadshows in the UK and selected several of them for employment. Most proved to be enthusiastic aviators who embraced the opportunity. Sadly, a few regarded it as just another job. The difference soon became apparent in their attitude towards flying.

To fly Boeing 737s or any jet airliner was a privilege. The standard operating procedure was to fly leg for leg, the Captain flying a sector as the handling pilot and the next by the Copilot as the handling pilot.

On several occasions, one of the guys would complain bitterly about early departures, or the inclement weather, natural events that affected us all. The issue was quite simple to resolve by doing the sector oneself and the next sector too. His reputation spread and many others concurred with my concerns – he was possibly the most inappropriate employee and exemplified my view of an aviator as opposed to just a pilot. It is really about professionalism, mentorship, and the pride of mastering a demanding profession.

I learned early that there are no shortcuts in aviation. Every technical detail exists because someone, somewhere, learned its importance the hard way. The pilots I admired most understood that mastery was not about passing examinations or collecting type ratings – it was about never ceasing to learn. That, more than anything else, is what separated an aviator from someone who simply occupied a cockpit. ✂



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IMAGE CREDIT : © Nic Mason

CLOSING THE DISTANCE

Henley Air's Head of Training, Lindie Bruyns, discusses the difference between technical proficiency and operational competence, and why judgement, operational exposure and human factors matter in preparing helicopter professionals for real-world operations.

Africa presents an unusual combination of geography, infrastructure and operational need. Helicopters operate across passenger transport, offshore operations, emergency medical services, conservation, security, firefighting, rescue and government missions, frequently working where conventional aviation cannot.

For Lindie Bruyns, Head of Training at Henley Air, that diversity demands more than the ability to operate an aircraft.

Pilots and support personnel need to understand how the mission, terrain, weather, aircraft condition, crew capability and operational pressures interact. Alongside technical proficiency, they require adaptability, situational awareness, sound judgement and a clear understanding of operational limitations.

For training organisations, Bruyns believes the objective cannot simply be to produce qualified individuals. It must be to develop professionals capable of applying their knowledge and skills safely and effectively within the conditions of African helicopter operations.

Beyond Hours In The Logbook

Licences, ratings and flying hours remain important measures. They establish minimum standards and provide evidence of training and experience, but they do not guarantee operational competence.

A technically proficient pilot may be able to fly an accurate approach, complete an exercise to the required standard or manage a simulated emergency correctly. Operational competence involves recognising whether that approach should be attempted at all, identifying deteriorating conditions early and balancing mission requirements against the limitations of the aircraft, crew and environment.

For Bruyns, the distinction lies in how knowledge is applied.

Technical proficiency asks: "Can you perform the task?"

Operational competence asks: "Should the task be attempted, under these conditions, at this time?"

"Sound judgement connects the two." Bruyns believes judgement should not be treated as something pilots acquire accidentally as their flying hours increase. Its foundations can and should be taught deliberately.

Scenario-based training, threat and error management, accident analysis and structured operational decision-



Lindie Bruyns. IMAGE CREDIT : © Henley Air

making all have a role. Rather than only asking, "What is the correct procedure?", an instructor can ask, "What would you do now, and why?"

This requires the student to interpret a situation rather than simply recall information.

There are nevertheless aspects of judgement that mature through experience. A simulator cannot fully reproduce consequence, environmental pressure or the psychological reality of operating in difficult terrain with passengers or colleagues depending on the outcome.

The role of training, Bruyns says, is therefore to make experience as deliberate and structured as possible, helping pilots learn to recognise developing threats before encountering them in an unforgiving operational environment.

Learning From The Operation

The operational environment surrounding a training organisation can also contribute to this development.

Within the Henley ecosystem, students are exposed to operational pilots, instructors, engineers, maintenance specialists, emergency medical and rescue personnel, and teams supporting real missions.

Each brings a different operational perspective. An engineer may interpret aircraft condition differently from a pilot. A rescue crew may assess a landing area differently from someone conducting a routine training exercise. An operational pilot returning from a demanding mission may bring back lessons that are not contained in a textbook.

Bruyns describes this as more than knowledge transfer. It facilitates “operational insight transfer.”

Such exposure cannot turn a newly qualified pilot into an experienced captain overnight. It can, however, shorten the distance between qualification and meaningful operational capability by exposing students to the disciplines, behaviours and thinking of experienced aviation professionals.

The Role Of Simulation

Simulation is particularly valuable when an event would be unsafe, inappropriate or impractical to reproduce repeatedly in an aircraft.

It allows pilots to experience emergencies, combinations of failures, high-workload situations and rapidly deteriorating conditions within a controlled training environment.

Its value extends beyond practising the final emergency response. A well-designed scenario can introduce the conditions leading towards an emergency, including deteriorating weather, conflicting information, increasing workload or subtle system indications.

The central learning point may therefore not be whether the pilot recovers from the final event, but whether the developing chain was recognised early enough to prevent it.

Simulation also has limitations. It cannot reproduce every sensory cue or fully replicate terrain, environmental pressure and real operational consequence. Bruyns therefore sees it as a complement to aircraft training and operational exposure, rather than a complete substitute for them.



IMAGE CREDIT : © LP van Zyl

Technology And The Pilot

Modern avionics, automation, mission systems and night vision technology can reduce certain forms of workload, but they also introduce new demands.

Pilots increasingly need to understand complex systems, interpret multiple sources of information and manage automation without losing awareness of the aircraft or the operating environment.

In some operations, the emphasis is shifting from controlling the aircraft alone towards managing the wider operating picture. This means understanding what the automation is doing, why it is doing it and whether its output remains appropriate to the situation.

“Technology is therefore not removing the need for judgement,” Bruyns says. “It is changing where judgement must be applied.”

Pilots still require strong fundamental flying skills, but increasingly need to combine those skills with systems knowledge, disciplined information management and the ability to maintain situational awareness when several sources are competing for their attention.

Human Factors As An Operational Competency

Bruyns believes human factors must be treated as core operational competencies rather than secondary soft skills.

Communication, crew coordination, threat and error management, workload management and the willingness to challenge a deteriorating situation are as important to safe operations as the ability to control the aircraft.

A technically competent crew remains vulnerable if nobody is prepared to question a poor decision. Equally, a challenge must be supported by the discipline to listen, reassess and respond appropriately.

Training should therefore develop professionals who can communicate clearly, contribute effectively within a crew and raise concerns without undermining authority or operational discipline.

Bruyns believes human factors training is most effective when integrated into realistic scenarios rather than taught as a separate theoretical subject.

Adapting How Aviation Teaches

Students are entering aviation from increasingly diverse educational and technological backgrounds.

Many are comfortable with digital tools and visual learning, while others may have had limited access to connectivity, technology or aviation-specific educational resources. Across Africa, training organisations cannot assume that every student arrives with the same educational foundation or prior opportunities.

Bruyns believes this requires greater adaptability from instructors.

The objective is not simply to make more information available, but to understand how each student learns and help convert information into understanding and practical competence.

Technology can assist through simulation, digital resources and improved visualisation of complex concepts, but it cannot replace repetition, discipline, patience, practical application or sound instruction.

"Sometimes the hand-drawn helicopter on the whiteboard remains the most effective teaching tool," she says.

For Bruyns, the industry should adapt how it teaches without diluting what it expects.

"We must meet students where they are while maintaining the professional standards and depth of understanding on which safe aviation depends."

Women In Helicopter Aviation

Bruyns has seen meaningful change in the opportunities available to women in aviation.

Women entering the industry today can see more female pilots, engineers, instructors and aviation leaders than many women encountered earlier in their careers. That visibility matters because it demonstrates that these roles are attainable.

Bruyns nevertheless believes the evolution is incomplete. "Representation alone is not sufficient. Meaningful progress will be achieved when a woman entering helicopter aviation is no longer regarded as unusual, when her competence is expected rather than questioned, and when leadership, technical and operational opportunities are available according to ability."

She believes the industry must continue addressing both visible barriers and less obvious assumptions that influence recruitment, development and advancement.

"The standard should be consistent: professionals must be assessed on their competence, conduct and contribution."

For young women entering aviation today, greater visibility also provides reference points that were less common for earlier generations.

"I would like the next generation to pursue excellence without first having to prove that they belong," Bruyns says. "They should encounter an industry in which access to the cockpit, classroom, maintenance hangar and leadership table is determined by ability, commitment and professional competence."

Ultimately, she would like women entering the industry not to be defined as women in aviation, but assessed and respected for the aviation professionals they become.

Building African Capability

Africa's requirement extends well beyond producing more pilots.

The continent also needs instructors, examiners, engineers, technicians, crew members, rescue specialists, medical personnel, safety professionals and experienced operational leaders.

Bruyns sees an opportunity to develop complete, sustainable aviation capability within Africa. "If pilots must continually be trained overseas, specialist instruction



imported and complex technical work exported, the continent may operate sophisticated aircraft without possessing the full capability required to sustain them."

Important skills gaps include advanced instruction, maintenance and technical expertise, specialist mission capability, human factors, safety management and operational leadership. Developing local instructors and transferring knowledge are particularly important because they enable capability to be retained, expanded and passed to the next generation.

Africa's diversity makes that task difficult, Bruyns says, but it also makes it necessary.

Closing The Distance

Asked what she would change about the way the industry prepares helicopter professionals for real-world operations, Bruyns' answer is straightforward.

"I would reduce the distance between training and operations."

Developing professionals should be exposed earlier to operational thinking, experienced practitioners, engineers, real mission considerations, human factors and the consequences of decisions.

Training should explain not only how to perform an exercise, but why it matters, when it should be applied and where it fits within the wider operational picture.

"The helicopter is only one component of a larger system," Bruyns says. "Even the most sophisticated aircraft, simulator, avionics suite or training programme ultimately depends on the people who operate, maintain and support it."

For Bruyns, the industry's task is therefore not simply to produce more qualified people.

It is to develop capable professionals who can apply their knowledge safely, intelligently and reliably in real-world operations. ✂

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STAY AHEAD OF THE FLIGHT

Inside the largely invisible world of flight operations, where technology is changing the tools but judgement still matters.

World Airnews in conversation with Pieter Smith, General Manager and Senior Instructor, EFO College.



Pieter Smith. IMAGE CREDIT : © EFO

Before an aircraft departs, a largely unseen group of people has already worked through weather, routing, fuel, alternates, airspace, restrictions and the conditions that could affect the flight. Once it is airborne, that work may continue as flight followers, dispatchers and operations personnel monitor its progress and respond when reality begins to move away from the plan.

For Pieter Smith, General Manager and Senior Instructor at EFO College, this largely invisible part of aviation is precisely where human competence still matters. Modern systems can process more information, faster and more consistently than ever before, but the person using them still has to understand the operation well enough to recognise when an answer on a screen deserves to be questioned. As Smith puts it, “automation breeds complacency”.

EFO’s history reflects that balance between accumulated operational knowledge and preparation for a changing industry. Founded by aviation operations specialist Lampies Enslin, the business began as EFO

Consulting in 2010, concentrating on flight operations, dispatch and related training before developing into EFO College.

From Experience To Formal Training

Smith’s route into aviation began with flying. He obtained his private pilot licence in the late 1990s and hoped to pursue a professional flying career, but in 2000 a family connection at Nationwide Airlines alerted him to an opportunity in aviation operations. He drove from Bloemfontein to Johannesburg for a Saturday interview, returned home, and received a call on the Monday asking whether he could start the following week.

His first role was not particularly glamorous. Smith describes himself as effectively the “gopher”, starting at the bottom and learning how an airline operation worked from inside it. Over roughly four years he progressed through Nationwide’s operations environment until his qualifications at the time limited how much further he could advance. His career subsequently took him into road transport, where he spent many years in management, but aviation remained a persistent pull.

Enslin had also worked with Smith at Nationwide and subsequently continued his career in flight operations, including at 1time. According to Smith, it was through that experience that Enslin recognised a weakness in the way people were traditionally brought into airline operations. Formal training was limited, and much of what a newcomer learnt depended on the experience of the person sitting beside them.

“You learn from the guy before you, and the guy before you, and the guy before you,” Smith recalls, “and all the mistakes they made, you learned on.”

Smith says Enslin travelled to the United States to obtain his flight dispatcher licence and returned determined to bring greater structure to operations training in South Africa. EFO Consulting followed, initially testing the market with courses such as base radio telephony before expanding its flight operations and dispatch offering. Smith credits Enslin with being among those who helped pioneer more formal Flight Operations Officer training locally.

Years later, Enslin began encouraging his former colleague to return to aviation. “He actually hunted me for a good part of two, three years,” Smith says. Shortly before Covid, Smith made the move, having first obtained the qualifications he needed to return to the operational environment.

“I wanted to do something that I love,” he says. Smith subsequently assumed responsibility for the day-to-day management of EFO College and today combines his role as General Manager with that of Senior Instructor. Enslin remains the owner of the business and, according to Smith, continues to be actively involved as its quality manager.

The Profession Behind The Flight Deck

Flight operations rarely enjoys the public profile of pilots, cabin crew or aircraft engineers, yet its influence reaches directly into the conduct of a flight. Dispatchers and flight followers work with meteorology, navigation, aircraft performance, weight and balance, flight planning, regulations and operational information. Smith argues that the work demands more than technical knowledge: people must be able to interpret information, recognise changing circumstances and understand the consequences of a decision.

That is partly why he is cautious when people approach EFO wanting to move directly into a Flight Operations Officer course without previous aviation exposure. The theoretical material is demanding, particularly for someone encountering aviation terminology, meteorology, performance and flight planning for the first time. Candidates who already hold aviation qualifications naturally arrive with a different foundation, which is where recognition of prior learning becomes valuable.

For newcomers, Smith often recommends beginning with flight following. It provides a more accessible entry into the operational environment and helps candidates build a foundation before progressing further. His reasoning is practical: completing a theoretical course is not the same as becoming operationally competent, and experience and on-the-job training remain essential parts of development.

"I would rather tell the guys, do a flight follower, get experience in ops," he explains. "You're still working, you're getting a salary and you've got a job."

There is an ethical dimension to the advice. Smith could enrol a candidate and charge for the more advanced course, but if that person lacks the experience needed to progress, the training alone may not deliver what they expect. His preference is to explain the pathway before taking their money.

Theory Meets Practice

Smith is equally frank about the gap between passing an examination and doing the job. Some candidates, he says, can master the theory yet struggle when required to apply that knowledge in a practical situation. In flight operations, that distinction matters because the real world rarely presents itself as a neatly framed examination question.

"You get guys that study, study, study and they're brilliant at the theory," Smith says. "But when it comes to putting it into practice, it's not always in that person's capabilities."

Weather changes, aircraft become unserviceable, routes change and flights divert. A technical problem can suddenly leave passengers stranded and an operations team working through alternatives under pressure. The people in the background therefore need to absorb information, establish priorities and make sound decisions quickly.

For EFO, practical training is intended to reinforce that understanding. Smith points to flight planning as

an example. During initial practical work, students do not simply rely on a computer-generated solution. They work from aircraft manuals and build the flight plan themselves so that they understand where the figures and assumptions originate.

Only once that foundation exists, he argues, can somebody properly interrogate what an automated system produces.

When The Computer Is Not The Answer

A recent training session gave Smith a useful example. While examining the day's weather, he noticed a powerful jet stream affecting a domestic route, then saw that aircraft operating through the area were making different altitude choices. For the students, it became a practical lesson in the difference between accepting a flight-planning output and understanding the conditions behind it.

A sophisticated planning system can calculate a route and level using enormous amounts of data, but the dispatcher still needs sufficient meteorological and operational understanding to ask whether the proposed solution makes sense in the circumstances. A poor choice may remain within safe operating parameters while costing the operator unnecessarily in fuel or time.

Good operational judgement therefore has both a safety and a commercial value.

This is where Smith believes over-reliance on automation becomes dangerous. The problem is not the technology itself: modern systems can remove repetitive work, improve access to information and make operations more efficient. The risk appears when the person using the technology no longer understands the process well enough to identify an error, unusual condition or answer that simply does not look right.

One Size Does Not Fit All

The same philosophy shapes EFO's approach to different operators. Smith stresses that training for a scheduled airline is not necessarily identical to training for a bush operator or charter company. Operators such as Mack Air and Wilderness Air in Botswana, for example, conduct operations with a strong visual flight component, while scheduled carriers work predominantly within a different operational pattern. Charter operations bring another set of demands because destinations, timings and requirements can change rapidly.

The fundamentals remain, but their application changes. EFO therefore adapts training to the client's operational environment rather than treating every organisation as though it works in the same way. Smith says the college can spend time within a client's operation before incorporating that reality into the training programme.

Aircraft type matters too. Different fleets introduce different performance characteristics and operational requirements, particularly when training becomes type-specific. Smith sees this as one of EFO's important differentiators. The objective is not simply to provide a

generic qualification, but to make the knowledge relevant to what the person will actually encounter at work.

EFO deliberately avoids trying to train clients on every flight-planning software platform they may use. There are simply too many systems, and covering all of them would distract from the purpose of the course. The objective is to teach the operational knowledge that allows somebody to understand what a system is doing, rather than merely which buttons to press.

Small By Design

EFO's decision to remain relatively small is also deliberate. Its company philosophy describes slow growth as contributing to continuity, an approach that runs against the current obsession with rapid scale. Smith sees size as directly connected to quality control. A smaller organisation can remain close to its clients, adapt material to their requirements and avoid the danger of overpromising and under-delivering.

That has not prevented the college from working beyond South Africa. EFO's supplied company history records training relationships across Southern Africa and internationally, including work in Botswana and Namibia and training at Emirates University in the United Arab Emirates between 2016 and 2021. Smith says the Emirates University relationship involved EFO providing Flight Operations Officer and recurrent training as a third-party provider.

Covid ultimately changed that relationship and accelerated another transformation inside EFO. The college moved increasingly towards digital delivery and administration and is now largely paperless. Online and computer-based training have become important parts of the model, while face-to-face courses can still be delivered at clients' own facilities.

For Smith, this has removed the need to maintain substantial permanent premises simply for the sake of having a classroom. EFO can instead take the training to the operator, an approach that also puts instructors closer to the environment in which the knowledge will ultimately be used.

The Value Of Interaction

Digital delivery, however, does not mean Smith wants training to become passive. He remains an advocate of interaction, particularly when students are learning material that requires interpretation rather than memorisation. EFO uses videos, questions and other material to keep learners engaged, but Smith still enjoys face-to-face instruction because it allows an instructor to challenge an answer, explore the reasoning behind it and introduce examples drawn from real operations.

That interaction also allows an experienced instructor to assess something less easily measured by a multiple-choice examination: how a person thinks. Flight operations can require someone to absorb several pieces of information at once, identify which matter most and decide what action is appropriate. Smith repeatedly returns to the need for people who are alert, curious and



willing to question what they see.

It is also where the instructor's own operational experience becomes part of the training process. The objective is not to recreate the old system in which knowledge was simply handed down informally from one colleague to the next, but neither is it desirable to remove accumulated experience from the classroom. Formal training provides the structure. Experienced instructors give that structure operational context.

Ai In The Classroom

Artificial intelligence is beginning to enter EFO's training environment from both directions. Smith uses AI selectively when developing and updating material, but he treats its output as a starting point rather than an authority. "What is the credibility of the information you get out of AI?" he asks. In aviation training, where technical accuracy matters, generated information still has to be checked against authoritative sources.

Students present another challenge. Smith has already encountered assignments in which responses appear to have been generated by AI rather than developed by the candidate. His concern is not primarily about the technology. It is about what happens to learning when a student bypasses the process of thinking through the question.

"What are you learning from it?" he asks.

The question reaches beyond the classroom. If an aspiring operations professional becomes used to accepting machine-generated answers without understanding how those answers were reached, very little operational capability has been developed. In an environment where

critical thinking matters most when the expected answer no longer applies, that is a significant weakness.

Smith nevertheless expects AI to play a growing role in aviation and believes it can make parts of the dispatcher's job easier. He is far less convinced that it removes the need for the profession itself. As systems become more capable, the nature of the work may change, but someone still has to interpret what is happening, respond to exceptions and understand the broader operational picture.

"You still need that human element and sharp people to be in the background," he says.

Communication Is Changing Too

That evolution is already evident in aviation communications. Smith points to systems such as controller-pilot data link communications, where information traditionally exchanged by voice can increasingly be transmitted electronically. For a training organisation whose early programmes included base radio telephony, the transition is significant. The requirement for communication remains, but the method is changing.

Unmanned aviation raises a similar question on a larger scale. Smith does not pretend to know exactly how future pilotless commercial operations will be structured, but he challenges the assumption that removing a pilot from the cockpit automatically removes the human operational function. Military unmanned aircraft already depend on people on the ground, and increasing autonomy may therefore shift responsibilities rather than simply make them disappear.

For dispatch and flight operations, that could eventually create new responsibilities rather than eliminate existing ones. If more decisions migrate away from the aircraft itself, the competence of the people monitoring and supporting the operation from the ground could become even more significant.

A New Variable In The Airspace

Drones are already creating a more immediate training issue. EFO is expanding its material to improve awareness of unmanned operations and their interaction with conventional aviation. Smith's concern is less about professional operators working within formal regulatory structures than about the accessibility of increasingly capable consumer drones to people who may have little understanding of airspace, NOTAMs or the consequences of operating near conventional aircraft.

For flight operations personnel, this creates another variable to understand and monitor. It also illustrates a wider problem running through much of aviation's current transition: technology can become widely available before the knowledge required to use it responsibly has spread with it.

Training therefore has to keep evolving, not only to teach new systems, but to help aviation professionals understand how those systems alter the environment in which they work.

Preparing For The Bad Day

For all the discussion about AI and automation, Smith's philosophy ultimately returns to a very traditional aviation principle: preparation. Flight followers and operations personnel need procedures for abnormal events, but a checklist sitting beside a workstation is only useful if people understand how to use it.

Drawing on his experience in road transport operations involving dangerous goods, Smith remembers regular emergency drills and the value of repetition. "The more you do your drills, the more it becomes second nature," he says.

The principle is familiar in the cockpit, where crews practise events they hope never to encounter. Smith believes the people supporting the aircraft from the ground need the same readiness. When something genuinely goes wrong, the operations centre cannot begin by trying to work out who should do what. Procedures, communication and individual responsibilities need to have been understood before the crisis arrives.

It is another reason practical competence matters as much as theoretical knowledge. Crises do not arrange themselves conveniently around the training manual. People have to interpret the situation they actually face and apply what they know.

Stay Ahead Of The Flight

Asked what advice he would give himself if he could go back ten years with the knowledge he has today, Smith's first answer is simple: "Don't sit on your hands."

He then turns naturally to the language of dispatch. A person monitoring a long flight cannot concentrate only on where the aircraft is now. Weather systems are moving, conditions are changing and the job requires an awareness of what the aircraft may encounter further along its route.

"Keep abreast with changes that are happening," Smith says. "Stay ahead of the flight." It is an apt description of the challenge facing aviation training. AI will improve, automation will deepen, communications will continue to change and unmanned aircraft will become more familiar in the airspace. The skills required of the people behind an operation will evolve with them.

Training cannot simply prepare people to operate the systems aviation uses today. It has to give them enough underlying knowledge to understand the systems that arrive tomorrow, while preserving the judgement to recognise when technology does not have the whole answer.

For Smith, that is ultimately what lies behind the qualifications, courses and technology. Flight operations needs people who can interpret, question, anticipate and decide. The tools may change dramatically, but the responsibility to understand what is happening does not. Technology can tell an operations professional where the aircraft is.

The human skill lies in understanding what may happen next. ✂

THE EXPERIENCE GAP

Africa has aviation talent. The harder question is whether the industry is creating the experience, career pathways and mobility that will allow that talent to become lasting capability.

World Airnews in conversation with Dawit Lemma, Chairperson, African Business Aviation Association



Dawit Lemma IMAGE CREDIT: © AfBAA

Ask Dawit Lemma whether African aviation has a skills shortage and the answer is more complicated than the question suggests.

From his perspective as Chairperson of the African Business Aviation Association (AfBAA), the challenge is not simply finding people. It is finding people who already have the experience required to do the job.

"What I hear most often is not 'we cannot find people.' It is 'we cannot find people who have already done the job.' Applications are plentiful. Experience is not."

The pressure points, he says, are consistent across the continent. They include licensed maintenance engineers with current type approvals, avionics specialists, quality and compliance managers capable of genuinely running a safety management system rather than merely filing one, flight operations officers and dispatchers, and trained ground handling supervisors.

That last group is particularly important because it occupies the layer between the ramp and the accountable manager, an area where Lemma says a great deal of operational risk sits.

The issue extends beyond individual qualifications. African business aviation typically operates with small teams, wide job scopes, unfamiliar airfields and direct client contact. These are not necessarily the environments for which traditional airline-focused training was designed.

Where Experience Comes From

Operators are currently finding much of the capability they need by importing or borrowing it.

Expatriate contractors arrive for short assignments, engineers are recruited from national carriers, and crews are sent overseas at considerable cost for type training. "In effect, African business aviation has outsourced its training function to the airline sector and to Europe and the Gulf. That works until the airline wants its people back."

The underlying problem, Lemma argues, is that almost nobody on the continent trains specifically for the requirements of a business aviation professional. Institutions largely train airline professionals and business aviation recruits from that pool.

"Our sector's requirements, small teams, wide job scope, unfamiliar airfields, direct client contact, are not what that training was designed to produce."

This is why Lemma is cautious about describing Africa's problem simply as a "skills shortage".

At entry level, he argues, Africa does not have a straightforward numbers problem. There are licensed pilots and qualified engineers who are unemployed or working outside aviation.

The problem lies between holding a licence and becoming employable: hours, on-type experience, supervised practice and mentorship.

"So: not a shortage of people. A shortage of experience, of pathways, and of portability."

54 Markets, One Workforce

Mobility compounds the problem. Africa has 54 regulatory jurisdictions, which means that skills already available on the continent can remain trapped within relatively small national markets.

A technician qualified in Lagos, Lemma points out, cannot necessarily work easily in Nairobi, while the validation process can take months.

"Fix portability and you increase effective supply overnight without training a single additional person." The capability picture also differs enormously between African markets.

Lemma identifies Ethiopia, South Africa, Morocco, Egypt and Kenya, and increasingly Nigeria and Rwanda, as countries with genuine training and maintenance ecosystems.

At the other end of the spectrum are markets where virtually every technical capability required to support an aircraft may have to be flown in and out.



Bell 429 flying over Tanzania. IMAGE CREDIT : AfBAA

There are examples he believes deserve greater attention.

Ethiopian Aviation University, he says, remains the largest institution of its kind on the continent, while Ethiopia's MRO base is attracting regional work. In Namibia, Westair and its training arm Signa spent more than three years building a school and in 2026 graduated the country's first locally trained and locally examined aircraft maintenance engineers.

South Africa has begun embedding aircraft maintenance training within the public education system, while AFRAA has brought major African MROs into a common discussion around maintenance capacity. For Lemma, the common characteristic of successful initiatives is clear.

"The common feature of the initiatives that work is that they are employer-led and measured in years rather than in press releases."

Africa's Youth Can Be An Advantage

Africa enters the aviation workforce debate with a demographic profile very different from that of many mature aviation markets.

Lemma points to Africa's young population and argues that the continent is not approaching the same retirement cliff confronting markets in North America and Europe.

Aviation also remains aspirational for young Africans. "We do not have to persuade young Africans that this is an exciting industry."

He sees three potential advantages. Africa has a large volume of talent. Younger professionals can adopt new

technology directly rather than first having to be retrained away from older systems. Smaller and flatter African operators can also give capable young professionals real responsibility much earlier than might be possible within a large flight department elsewhere.

But the same demographic profile brings a challenge.

"A young workforce is an inexperienced workforce."

The reservoir of accumulated judgement available to a European or American operation is thinner in Africa, Lemma argues, and judgement cannot simply be accelerated.

Africa's demographic advantage also makes the continent an attractive recruiting ground for the rest of the world.

"The honest summary is that Africa has the people and the rest of the world has the experience."

Rather than simply accepting outbound migration, Lemma believes there is an opportunity to structure the exchange deliberately through inbound mentorship and instructor programmes.

From Operating Machines To Managing Systems

The nature of aviation work is changing at the same time. Across disciplines, Lemma sees the direction of change as broadly similar: away from simply operating the machine and towards managing the system and owning the decision.

Pilots increasingly operate as systems and risk managers. Engineers are moving from mechanical fault-finding towards data interpretation, including engine

condition monitoring, trend analysis and predictive maintenance.

Ground handling increasingly involves hazard identification, human factors and documented safety management systems. Trip support officers work through digital platforms rather than relying on the telephone and fax-based systems of an earlier generation.

Systems literacy, data interpretation, safety management fluency, precise written communication and disciplined documentation are consequently becoming more important.

There is also an African dimension. Professionals on the continent frequently work with fewer specialists, thinner parts networks and greater distances from support. This creates a breadth and versatility that is less common in mature markets where roles may be narrower and deeper.

"Properly recognised, that versatility is a competitive advantage rather than merely a symptom of under-resourcing."

Training For The Environment Ahead

Lemma believes initial aviation training in Africa is generally sound.

"It is everything after initial training where we fall behind."

He identifies three particular gaps. The first is recurrent and continuation training, which can be among the first areas cut when finances are under pressure, despite its importance in maintaining currency.

The second is curriculum. Lemma argues that curricula remain anchored to an aircraft generation now being retired and continue to treat safety management systems, data tools and digital workflow as add-on modules rather than as central elements of the job.

The third is the changing path into aviation itself.

"A young African today is far more likely to enter aviation through a drone than through a Cessna."

AfBAA established a dedicated UAS committee for that reason, but Lemma says training and licensing structures across the continent have not yet caught up with unmanned systems and advanced air mobility.

He adds a fourth issue. "We train people to operate aircraft; we do not train them to operate in Africa."

Remote fields, absent forecasting, cross-border regulatory differences and uncertainty around fuel and parts are all features of the real working environment.

Yet much of that environment is taught nowhere. It is, Lemma says, "learned by exposure, at the price exposure charges."

Where Automation Stops

Technology and automation can increase capability, but Lemma believes professional judgement remains indispensable.

"Automation performs superbly where the environment is predictable. A great deal of African business aviation is not."

Judgement becomes important in the space between a checklist and the situation confronting the professional. Lemma gives practical examples: an alternate airport with no fuel, an aircraft on ground at a field with no parts and no scheduled service for three days, a go/no-go decision where no reliable weather forecast is available, or an airfield where published information and reality have diverged.

"No system in service today resolves those. People do."

There is also the client. "In this sector, a trip is a promise, and when a process fails, the customer does not want a status page, they want a person who takes responsibility and fixes it."



Lagos Ramp. IMAGE CREDIT : EAN Aviation

Systems may optimise, he argues, but they do not answer for outcomes.

"Accountability has not been automated, and I do not expect it to be."

His deeper concern is what automation could mean for the development of professional judgement.

Routine difficulty historically gave young professionals opportunities to build experience. If an engineer never has to diagnose a fault that a system failed to identify, or a pilot never manages a degraded aircraft, that experience may not be there when it is finally needed.

"Building judgement now has to be designed into training deliberately, because the job no longer produces it as a by-product."

Producing Licences, Not Careers

For Lemma, what happens after training is the weakest link in the entire chain.

"We are considerably better at producing licences than at producing careers."

A newly qualified African pilot with around 200 hours has very few legitimate places to build the next thousand. A newly licensed engineer needs somewhere to accumulate supervised on-type experience.

Families may have spent everything they have to fund the initial training.

When there is no next step, people leave. Some go to the Gulf or Europe, while others leave aviation altogether. "We then describe the result as a skills shortage, which is not quite honest."

What is missing, Lemma argues, is structural: cadet and first-job schemes attached to real employers, apprenticeships that lead to positions rather than simply certificates, right-hand-seat and supervised-maintenance programmes, and greater cross-border mobility.

There is also what he describes as a ceiling problem. In many operations, Africans occupy technical positions while expatriates hold accountable-manager and post-holder roles.

Talented professionals can see that ceiling well in advance, and Lemma believes it can drive departure as effectively as salary.

Encouragingly, he says, the growth of African-owned operators is beginning to remove it.

Somebody Has To Create Experience

Responsibility does not belong to one part of the industry. "Operators should hire trainees, not only finished professionals. It is difficult to complain about a shortage of experienced staff while advertising exclusively for experienced staff."

Someone has to absorb the cost of the first two years. Training organisations, Lemma argues, should train to the standard demanded by the job rather than merely the minimum required by the licence, while employer partnerships should make graduation and employment more closely connected events.

Regulators hold what he describes as perhaps the largest and cheapest available lever: mutual recognition

and licence portability between African states.

He also sees proportionality in industry standards as important, citing IBAC's 2026 decision to introduce a self-declaration route to IS-BAH as an example of allowing smaller handlers to begin the safety management journey without immediately carrying the cost of a full audit.

For manufacturers and other international companies, his principle is equally direct: "If you operate here, train here; if you sponsor, sponsor here; and if you recruit, recruit here first."

Lemma also points positively to programmes involving Airbus, Ethiopian and ENAC, and Boeing engineering training in Lagos, but would like to see such initiatives become structural rather than episodic.

Industry bodies have their own role: to convene, standardise and open doors.

AfBAA has been rebuilding its Safety and Training Committee and working with IBAC and NBAA to encourage IS-BAO and IS-BAH adoption.

The Association has also brought workforce organisations into its membership, including the African Section of the Ninety-Nines and the Association of Women in Aviation Maintenance Kenya, while working with Women in Aviation International on routes into the sector for young African women.

AfBAA has also invested in independent research into African business aviation, reflecting another concern raised by Lemma: that the industry is trying to plan a workforce it has never properly measured.

Counted, Connected And Given Somewhere To Go

What gives Lemma confidence is the people themselves. "The young Africans entering this industry are ambitious, digitally fluent and, notably, are not waiting for permission."

They are building drone businesses, starting handling companies and participating in initiatives such as Girls in Aviation Day in numbers he says would have been difficult to imagine a decade ago.

He also sees more African-owned operators than at any previous point in his career, with each one helping to remove a career ceiling.

"The talent question is settled. It is the structures around the talent that remain unfinished."

What concerns him is the possibility that Africa will train a generation for somebody else's aviation industry.

The pipeline may be improving, he says, but retention is not, and the two are still too often treated as separate issues.

He is equally concerned that workforce development continues to be treated as a corporate social responsibility issue rather than the operational risk he believes it to be. Ultimately, the challenge is not simply producing more qualified people. It is ensuring that those people can gain experience, build careers and remain within African aviation.

As Lemma puts it: "Africa does not need rescuing on skills. It needs its own capability counted, connected, and given somewhere to go." ✂



PC 12 Simulator. IMAGE CREDIT : © Simuflight

THE TRUE COST OF TRAINING SHORTCUTS

When aviation training becomes a race to the quickest qualification and lowest price, weaknesses in the foundation may only become apparent much later in a pilot's career.

By Joey Schulz

A pilot may hold the required licence, rating or certificate and still arrive at the next stage of training without the depth of understanding needed to progress confidently. For advanced training providers, the difference between having completed a course and having built genuine competence can become very apparent.

At Simuflight, we see pilots arriving with very different training foundations. Many approach recurrent, class or type-rating training as an opportunity to improve their knowledge and competence. Others arrive with gaps in the fundamentals of flight principles and procedures that should have been addressed much earlier in their careers.

This is not simply an argument about price. Affordable training can be good training, just as expensive training

does not automatically guarantee quality. The concern is what happens when cost and speed become the primary measures of success and training is approached as a transaction: complete the required hours, pass the required test and move on.

Qualification Is Not The Same As Competence

Aviation training necessarily involves licences, ratings, examinations, checks and regulatory requirements. They provide the structure through which competence is assessed. But satisfying the requirement should not become the purpose of training itself.

When a pilot approaches training as a tick-the-box exercise, the emphasis can shift from understanding to completion. A procedure may be memorised sufficiently to pass a test without the pilot fully understanding why it exists, how it relates to the aircraft or what happens when a real situation does not unfold exactly as it did during training.

Weaknesses at an early stage do not necessarily disappear as a pilot progresses. Time can embed the

weaknesses further or erode knowledge that was never properly embedded in the first place. By the time that pilot arrives for more advanced class or type training, an instructor may have to revisit basic principles before meaningful progress can be made.

For the pilot, or the company paying for the training, that can mean additional training time and additional cost. What appeared to be a saving earlier in the training journey may therefore prove to have been a false economy.

Building Judgement, Not Simply Responses

Good training must also prepare pilots for situations that do not follow a convenient script. Aviation procedures are essential, but professional flying requires pilots to understand the principles behind those procedures and to apply them when circumstances change.

Scenario-based training is valuable because it asks a pilot to interpret information, manage workload, identify changing risk and make decisions rather than simply reproduce a rehearsed response. Abnormal and emergency scenarios can expose weaknesses in understanding that may remain hidden during routine exercises.

The objective is not to make training unnecessarily difficult or prolonged. It is to ensure that a pilot develops the confidence and judgement to work through a problem when the answer is not immediately obvious. A pilot who understands the aircraft, the operating environment and the reasoning behind a procedure is better equipped to adapt when an unexpected situation develops.

Aeronautical decision-making is part of that foundation. The pressure to complete a flight, meet a schedule or continue with a plan can affect decision-making at every level of aviation. Training should therefore encourage pilots to stop, assess the available information and make a considered decision rather than simply pressing on because that was the original plan.

The Skills Beyond Aircraft Handling

The same principle applies to skills sometimes described as 'soft skills'. Multi-crew cooperation and crew resource management can be treated as regulatory requirements to be completed, but their value lies in how they influence communication, workload management, leadership, situational awareness and decision-making in the cockpit.

At Simuflight, we regard these areas as integral to professional competence and use instructors with extensive multi-crew experience to teach them. The value of an experienced instructor is not simply the ability to explain the syllabus. Experience allows an instructor to place procedures and theory in an operational context and to discuss how seemingly straightforward decisions can develop or unravel in real-world flying.

Training also needs to extend beyond the obvious manoeuvres and checks. Simuflight's Weather Radar Practical Application course, for example, supplements initial conversions by developing a pilot's

practical understanding of weather radar information. Understanding the purpose and correct application of a Minimum Equipment List is another example of knowledge that affects operational judgement rather than basic aircraft handling.

These subjects illustrate a broader point. Modern pilots operate within increasingly complex systems and an ever-growing amount of information. Knowing how to physically fly the aircraft remains fundamental, but professional competence also depends on understanding information, procedures, limitations, other crew members and the operational environment around the aircraft.

A Foundation That Follows A Pilot

The habits established during initial training can follow a pilot throughout a career. A student who learns from the beginning to ask why, to prepare thoroughly and to regard every training exercise as an opportunity to improve is building more than the skills required for the next flight test.

That foundation becomes increasingly important as the aircraft become faster and more complex, the operating environment becomes more demanding and the consequences of poor decisions increase. Advanced training should build on an existing foundation, not repeatedly have to reconstruct it.

This places responsibility on both sides of the training relationship. Training organisations and instructors must provide meaningful instruction rather than simply process candidates through a syllabus. Pilots, in turn, need to take ownership of their development and recognise that the cheapest or quickest route to a qualification is not necessarily the route that will serve them best over a career.

Training As An Investment

Aviation training is expensive, and cost will inevitably influence the choices pilots make. The answer is not to suggest that the most expensive training provider is automatically the best. Pilots should instead look carefully at what they are buying: the quality and experience of the instructors, the depth of the programme, the opportunity to learn from realistic scenarios and whether the training organisation is interested in developing competence or merely completing a course.

That process should begin at PPL level. Building a strong foundation intentionally, and continuing to learn as experience accumulates, gives every subsequent stage of training something solid to build upon.

Ultimately, aviation training is not simply about obtaining permission to operate an aircraft. It is preparation for the responsibility that comes with doing so. The pilot in command is responsible not only for his or her own life, but for the lives of passengers, crew and, potentially, people on the ground.

There are few better reasons to make competence, rather than convenience, the measure of successful training. ✂



The A350-1000ULR. IMAGE CREDIT : © Airbus

BEYOND THE 20-HOUR COCKPIT

The A350-1000ULR is being developed to keep flying for almost an entire day. Behind that capability lies another challenge: keeping the people operating it rested, informed and situationally aware.

There comes a point in ultra-long-range aviation where the question is no longer simply how far an aircraft can fly. It becomes how people can safely operate it for that long.

On 23 July, Airbus A350-1000ULR development aircraft MSN707 departed Toulouse for Melbourne. A few days later it turned around and headed back to France, completing what Airbus says was the aircraft's longest flight to date: 12,460 nautical miles in 24 hours and 24 minutes.

The numbers are impressive, but they tell only part of the story. The flights formed part of the development programme for the A350-1000ULR being produced for Qantas Project Sunrise, which will eventually connect Australia's east coast non-stop with destinations including London and New York. Airbus is developing the aircraft for commercial missions of almost 10,000 nautical miles and flight times of up to 22 hours.

That pushes aircraft endurance into extraordinary territory. It also changes the demands placed on the people operating it.

For the engineers and test pilots aboard MSN707, the long flights therefore provided an opportunity not simply to validate aircraft systems, but to test some of the human arrangements that become increasingly important when a flight can span almost an entire day.

Aircraft Endurance, Human Endurance

The technical purpose of the development flights was clearly defined.

MSN707 is equipped with specialised flight-test instrumentation and is powered by two Rolls-Royce Trent XWB-97 engines. Among the principal areas being evaluated were fuel management and cabin environmental performance.

Central to the A350-1000ULR's extended range is an additional rear centre tank. Airbus describes the tank as having a capacity of 20,900 litres and says it increases the aircraft's range sufficiently to support missions approaching 10,000 nautical miles.

The development flights allowed the team to complete outstanding test points associated with the tank and to monitor cabin air-conditioning performance over an unusually long period.

The aircraft's new twin Flight Crew Rest Compartment was also extensively instrumented so that its environmental performance could be evaluated.

The compartment has been designed specifically for the demands of ultra-long-range operations. It consists of

two separate sections with individual entrances, allowing pilots eventually operating the aircraft in airline service to enter or leave their respective rest areas without disturbing one another.

It is a relatively small design detail, but one that reveals how aircraft architecture changes when flight duration begins to approach the limits of a normal human day. Range is no longer simply about carrying enough fuel.

The aircraft must also support the people required to operate it.

A Cockpit That Never Really Stops

The return flight from Melbourne to Toulouse provides an interesting glimpse into how Airbus approached that challenge during development testing.

Five pilots were aboard: three Airbus pilots and two Qantas pilots, Captains Andrew Coull and David Summergreene. Both Qantas pilots were already qualified on the A350 but were experiencing the -1000ULR variant for the first time.

They were supported by two Test-Flight Engineers positioned in the cockpit to monitor aircraft systems and three Flight-Test Engineers working from instrumentation stations in the cabin.

This was therefore very different from an ordinary passenger flight. It was a heavily instrumented development mission with a substantial specialist crew and Airbus retaining operational responsibility for the aircraft.

But the way the pilots' time was organised is particularly interesting. Airbus test pilot Xavier Pepin, who captained the return flight, explained that the pilots worked four-hour shifts, but crew rotations took place every two hours. That created an intentional overlap.

When a new pilot entered the cockpit, the outgoing pilot remained for another two hours. Instead of responsibility passing abruptly from one crew member to another, there was time for information to move with the people.

According to Pepin, the staggered system allowed a thorough handover while maintaining situational awareness. During the return flight, an Airbus test pilot also occupied one of the pilot seats whenever a Qantas pilot was flying from the other, reflecting Airbus's responsibility for the development operation.

It is an elegant response to a very human problem. After many hours airborne, continuity matters. The person entering the cockpit needs more than a snapshot of the aircraft's current state. He or she needs to understand what has happened during the preceding hours, what the crew has been watching, what may be changing and what still lies ahead.

Technology can display enormous quantities of information. It cannot remove the need for people to build a shared understanding of the situation.

Rest Becomes Part Of The Operation

Rest on an ultra-long-range flight is not simply time away from the controls. It is part of the operational architecture.

Interestingly, the pilots could not use the new flight crew rest compartments for their intended purpose during these development flights because the spaces were occupied by equipment measuring ventilation performance.

Instead, the crew used the aircraft's eight-berth cabin crew rest compartment.

Pepin noted an operational advantage specific to the test environment: because there were no passengers or cabin crew aboard, pilots resting there could return quickly to the cockpit or flight-test stations if required.

That arrangement should not be mistaken for the eventual airline operating model. These were development flights, not commercial services, and the crew structure and rest arrangements reflected the requirements of a flight-test programme.

Nevertheless, the mission demonstrates something fundamental about ultra-long-range operations.

As flight duration increases, rest cannot be treated simply as recovery after work. It has to be designed into the work itself.

Handing Over The Aircraft

The two-hour overlap between pilots may be one of the most revealing aspects of the flight.

Aviation has always depended on handovers. Pilots brief one another. Engineers hand aircraft between shifts. Air traffic controllers transfer responsibility between sectors and positions. Maintenance teams document work so that the next person understands what has already been done.

Ultra-long-range operations amplify the importance of that process because the same flight may pass through several working and resting cycles before reaching its destination.

On MSN707, Airbus deliberately created time for that transfer of understanding.

There is a broader lesson here. As aviation systems become increasingly capable, the challenge is not necessarily to remove people from the process. Often it is to design the process around the realities of human performance.

Fatigue, attention, memory and situational awareness do not disappear because an aircraft has greater endurance.

They become variables that have to be managed just as deliberately as fuel.

Learning To Operate The ULR

The presence of the two Qantas pilots added another human dimension to the mission.

Although already A350-qualified, they were new to the -1000ULR variant. Airbus scheduled periods during which they could take the controls while working alongside its test pilots.

Pepin described the flight as an opportunity to exchange knowledge and address their questions during the ultra-long-range journey.

That exchange is becoming increasingly relevant as Qantas prepares for service entry.

The airline says its pilots have begun training using Australia's first A350 simulator in Sydney and with British Airways in the United Kingdom, while some pilots are also expected to gain experience with Cathay Pacific in Hong Kong.

By the time all 12 Project Sunrise A350-1000ULRs have arrived, Qantas expects to have trained more than 360 pilots and 1,200 cabin crew for the operation. Engineers have also begun classroom training.

The scale of that preparation is a reminder that introducing a new aircraft is never simply a matter of taking delivery of the hardware. An operational system has to grow around it.

Designing For People

Project Sunrise is also forcing that thinking beyond the cockpit. Qantas plans to configure its A350-1000ULRs with only 238 seats across four cabins. The airline has worked with the University of Sydney's Charles Perkins Centre on cabin features intended to support passenger wellbeing during extremely long flights, including lighting schedules, movement and hydration.

A dedicated Wellbeing Zone will provide passengers with space to move and stretch, while cabin lighting has been developed around circadian-rhythm research.

Again, the underlying problem is human. The aircraft may be capable of remaining airborne for more than 20 hours, but the people inside it still have biological

clocks, need sleep, movement and respond to prolonged confinement.

Ultra-long-range aviation therefore represents something more complicated than an engineering exercise. It requires the machine and the human system to be developed together.

When Capability Changes The Job

Qantas currently plans to begin daily non-stop Sydney-London services in October 2027, with Sydney-New York expected to follow. The airline says the first A350-1000ULR is due for delivery in April 2027, with service entry remaining subject to regulatory approvals and aircraft certification.

When those flights begin, attention will inevitably focus on the headline achievement: travelling between Australia's east coast and Europe without stopping.

But perhaps the more consequential development will be taking place behind the cockpit door.

Aircraft have progressively extended the boundaries of what is operationally possible. Each extension requires the people around them to adapt.

For ultra-long-range aviation, that means thinking differently about fatigue, rest, crew composition, hand-overs, training and the preservation of situational awareness over extraordinary periods of time.

The Melbourne-Toulouse development flight demonstrated that the A350-1000ULR can remain airborne for more than 24 hours. The challenge now is ensuring that the human system around it is every bit as resilient. ✈



A350-1000ULR. IMAGE CREDIT: © Airbus

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IMAGE CREDIT : © Bristell SA

THE RETURN OF THE OWNER-PILOT

Why a new generation of Light Sport Aircraft is redefining recreational flying and flight training

For many years, the conversation surrounding general aviation has been dominated by rising operating costs, increasingly complex regulation and the steady ageing of both aircraft fleets and pilot populations. In many parts of the world, these challenges have raised questions about the long-term sustainability of private flying, particularly for owner-pilots seeking an aircraft that combines affordability with modern technology and enjoyable handling characteristics.

Yet alongside these well-documented challenges, another trend has been quietly gathering momentum. A new generation of Light Sport Aircraft (LSA) is changing perceptions of what smaller aircraft can offer. No longer viewed simply as entry-level recreational machines, modern LSAs increasingly combine advanced avionics, sophisticated airframe design, improved safety systems and impressive cross-country performance in aircraft that appeal equally to experienced pilots and newcomers to aviation.

This evolution reflects more than advances in aircraft design. It represents a broader shift within general aviation, where owner-pilots and flight schools are seeking aircraft that are not only economical to operate but also deliver a contemporary flying experience without sacrificing comfort, capability or safety.

Among the manufacturers contributing to this changing landscape is Czech aircraft producer BRM Aero, whose Bristell range has developed a reputation for combining European craftsmanship with modern technology. Through Bristell SA, the aircraft is now being introduced to South African pilots, providing an interesting case study of how the Light Sport Aircraft market continues to evolve.

A Different Approach To Light Aviation

Light Sport Aircraft have traditionally occupied a distinct position within general aviation. Designed to provide relatively simple, economical flying, they have often been associated with recreational pilots taking short leisure flights or newly qualified aviators building experience before progressing to larger certified aircraft. That distinction has become less pronounced in recent years.

Advances in composite materials, engine technology, avionics integration and manufacturing quality have significantly expanded the capability of many aircraft within the category. Modern LSAs are increasingly expected to support cross-country touring, instrument-style cockpit management and levels of comfort that would previously have been associated with considerably larger aircraft.



For manufacturers, this has required a different design philosophy. Rather than simply producing the lightest possible aircraft, emphasis has shifted towards creating aircraft that owners genuinely enjoy spending time in. Cockpit ergonomics, visibility, cabin comfort, luggage capacity and refined flying characteristics have become important differentiators alongside more traditional performance figures.

During an interview with World Airnews at AERO South Africa 2026, Kevin Fouché, founder of Bristell SA and the official South African distributor for BRM Aero, repeatedly returned to one particular theme.

For him, the defining characteristic of the aircraft is not a specification sheet. It is craftsmanship.

Craftsmanship As A Design Philosophy

Aircraft specifications often dominate marketing material. Cruise speed, useful load, fuel consumption and range are all important considerations for prospective buyers. Fouché believes, however, that many pilots form their first impression long before they examine performance figures.

"The attention to detail" is what immediately captures people's attention, he explained.

Manufactured by BRM Aero in the Czech Republic before final assembly and certification in South Africa, each Bristell reflects a manufacturing philosophy that places considerable emphasis on finish and presentation.

Flush riveting, premium paintwork, carefully upholstered seating and a meticulously designed interior all contribute to an aircraft that presents itself as a premium product despite operating within the Light Sport Aircraft category.

Such qualities are not merely aesthetic. For many owner-pilots, the aircraft represents a long-term personal investment as much as a practical means of transport. Build quality influences not only appearance but also perceptions of durability, ownership satisfaction and long-term value.

Fouché believes these details are often what distinguish the aircraft when prospective customers first encounter it. "When people see the aircraft up close," he observed, "they immediately appreciate the workmanship."

Designed Around The Pilot

The attention given to finish extends naturally into the aircraft's practical design.

Owner-pilots typically expect an aircraft capable of much more than local recreational flying. Weekend touring, cross-country trips and extended flying days all place demands upon cockpit comfort and baggage capacity that become increasingly important over time.

The Bristell addresses these requirements through a spacious cockpit designed to maximise visibility while incorporating wing-mounted luggage compartments that preserve valuable cabin space. Noise insulation contributes to a quieter environment, allowing easier communication between occupants and reducing fatigue during longer flights.

Safety has similarly become an increasingly important consideration within the Light Sport Aircraft sector. One feature that has become progressively more common

among modern aircraft is the installation of ballistic parachute recovery systems, providing an additional layer of protection in certain emergency situations.

The Bristell incorporates such a system as standard, reflecting broader industry trends towards integrating advanced safety technologies into aircraft that remain straightforward to operate.

Fouché describes the aircraft as "the baby Cirrus", a comparison intended to highlight the availability of premium features that have traditionally been associated with significantly more expensive aircraft.

The Modern Cockpit

Powerplant development has played an equally important role in transforming expectations within the Light Sport Aircraft category.

Bristell SA supplies the aircraft exclusively with Rotax engines, offering customers a choice between the well-established Rotax 912, the more powerful 915 and the latest turbocharged 916 engine. According to Fouché, buyer preference is increasingly shifting towards the 916, which provides an approximate 35-knot increase in performance over earlier variants.

Engine performance forms only part of the overall operating environment. Garmin avionics have become almost synonymous with contemporary general aviation, and their integration within the Bristell provides pilots with familiar navigation, communication and flight information systems that support both local recreational flying and more ambitious cross-country operations.

The result is a cockpit that reflects the expectations of today's pilots rather than those of previous generations.

Digital flight information, integrated GPS navigation and modern communication systems are no longer regarded as optional luxuries. Increasingly, they form



part of the standard experience that owner-pilots expect when investing in a new aircraft.

From Recreational Flying To Professional Training

Although Light Sport Aircraft are often associated with private ownership and leisure flying, their role within the broader aviation ecosystem continues to expand. Flight training organisations are increasingly evaluating aircraft that combine modern technology with lower operating costs, particularly as they seek to provide students with contemporary flight decks while managing the commercial realities of pilot training.

For flying schools, the choice of training aircraft involves considerably more than acquisition cost alone. Reliability, fuel efficiency, maintenance requirements, parts availability and ease of operation all influence the long-term economics of a training fleet. At the same time, student pilots increasingly expect to train in aircraft equipped with digital avionics and navigation systems that reflect those they are likely to encounter as their careers progress.

Recognising these differing requirements, Bristell SA offers aircraft configured for two distinct markets. Alongside premium owner-pilot variants, the company provides simplified training configurations intended specifically for flight schools. These aircraft retain the handling characteristics and operational capability of the Bristell while allowing training organisations to manage acquisition and maintenance costs more effectively.

According to Fouché, discussions are already underway with several South African flying schools considering the aircraft as part of future fleet development. While the outcome of those discussions remains to be seen, they reflect growing interest in aircraft that combine operational efficiency with modern cockpit technology.

This trend extends beyond any single manufacturer. As training organisations continue modernising their fleets, many are seeking aircraft capable of preparing students for an increasingly digital aviation environment while maintaining manageable operating costs. Modern Light Sport Aircraft are becoming part of that conversation.

Local Assembly, Global Standards

Introducing a new aircraft into any national market requires considerably more than importing completed airframes. Certification, technical support and after-sales service all play an important role in establishing confidence among prospective owners and operators.

Each Bristell destined for the South African market is manufactured at BRM Aero's production facility in the Czech Republic before being shipped to Plettenberg Bay for final assembly and certification by Bristell SA. This approach enables local support while maintaining direct links with the manufacturer's production systems.

As part of the local approval process, engineers from the South African Civil Aviation Authority visited the BRM Aero factory to assess manufacturing standards and assembly procedures across multiple aircraft variants.

For Fouché, the experience reinforced the confidence that first attracted him to the aircraft.

He recalls being particularly impressed by the consistency of workmanship throughout the production process, describing the factory's commitment to quality as one of the defining characteristics of the manufacturer.

For aircraft owners, such quality assurance extends beyond initial purchase. Confidence in manufacturing standards, factory support and local technical capability all contribute to long-term ownership satisfaction and influence purchasing decisions as much as performance figures or equipment specifications.

Flying For The Enjoyment Of Flight

Perhaps the most revealing aspect of the conversation with Fouché was that it seldom centred on sales targets or market share. Instead, it repeatedly returned to the simple pleasure of flying.

Having stepped back from full-time business, he now devotes his attention to representing an aircraft that he genuinely enjoys. For him, the Bristell is more than another addition to the Light Sport Aircraft market. It represents an approach to aviation that values craftsmanship, thoughtful engineering and the experience of flight itself.

That perspective resonates with a broader characteristic of general aviation. While commercial aviation is rightly measured by efficiency, connectivity and operational performance, owner-pilots often evaluate aircraft according to different criteria. Handling qualities, cockpit comfort, engineering integrity and pride of ownership all contribute to the overall flying experience.

Modern Light Sport Aircraft increasingly acknowledge these priorities. They are designed not only to transport pilots from one destination to another but to make the journey itself enjoyable.

Operational Implications

Advances in engine technology, avionics, safety systems and manufacturing quality have significantly expanded the capabilities of aircraft once viewed primarily as entry-level recreational platforms.

For private owners, these developments offer access to aircraft that combine relatively economical operation with sophisticated equipment and refined flying characteristics. For flight training organisations, they present opportunities to introduce students to contemporary cockpit environments while maintaining commercially sustainable operating models.

As manufacturers continue investing in design, technology and production quality, the distinction between traditional recreational aircraft and more capable touring and training platforms is becoming increasingly blurred. Modern Light Sport Aircraft are evolving into versatile aircraft capable of serving multiple operational roles without losing the simplicity and accessibility that first defined the category. ✂



Rosoborexport promotes the Su-57E fifth-generation fighter with the latest air weapons. IMAGE CREDIT: © Y Laskin

ROSOBORONEXPORT PUTS AFRICA IN FOCUS AT AAD 2026

Russia's state defence exporter heads to Africa Aerospace and Defence with a focus on aircraft, helicopters and expanding military-technical and industrial cooperation across African markets.

By Yury Laskin

Exhibition campaign of Rosoboronexport in September includes two major exhibitions on African continent – Egypt Airshow and African Defence & Aerospace in South Africa.

"Russia's friendship with African nations is based on decades of relations of respect and trust. Our country has always provided comprehensive assistance to the people of the continent, helping them fight for independence, justice and freedom, including with reliable and effective weapons," said Alexander Mikheev, Director General of JSC ROSOBORONEXPORT and Deputy Chairman of the Russian Union of Machine-Builders. "Today ROSOBORONEXPORT has forty-six African countries among its partners, with whom it has signed intergovernmental agreements on military-technical cooperation. The continent accounts for 30% of the company's book of orders, with contracts for technological cooperation projects worth over \$1.7 billion."

Rosoboronexport interacts with its African partners both on a bilateral basis, including through the productive work of Rostec State Corporation's representative offices based in key countries of the African continent and at international trade fairs.

In particular, delegations from African nations took an active part in the 1st International Security Forum, which

was held at several venues in the Moscow Region earlier in May.

The Russia–Africa Summit also gives a powerful impetus for the strengthening of comprehensive and equitable cooperation between Russia and African countries in all its dimensions. The first two events of that format were held in 2019 and 2023, in, respectively, Sochi and St. Petersburg. The third summit will take place in the fall of 2026. "Thanks to the agreements reached during the Russia–Africa Summit and ROSOBORONEXPORT's vigorous follow-up activities, about 150 contract documents worth over \$20 billion have been signed with African countries since 2023. At the same time the special exporter continues to build and expand military-technical and military-technological cooperation with its African partners," added Alexander Mikheev.

In Egypt and South Africa ROSOBORONEXPORT will offer its African counterparts the most relevant products for the armed forces and other security agencies – models that are best suited, among all those available on the global market, to address security challenges faced by the continent, as well as to protect its extensive coastlines and vast territorial waters.

The special exporter is developing cooperation with African partners on mutually beneficial terms, offering direct supplies of Russian defence products and assistance in implementing various infrastructure projects. The company is prepared to consider and discuss at the forthcoming event a wide range of industrial cooperation options, including licensed and joint production, development of advanced weapons and military equipment, as well as their modernisation, post-sale service and maintenance. ✂



The Mi-171Sh military helicopter on static display of the ARMY-2024 Forum. IMAGE CREDIT © Y Laskin



The Ka-52E Combat scout-attack helicopter with the 305E light multipurpose guided missile. IMAGE CREDIT: © Y Laskin

THE AVIATION SKILLS SHIFT

How automation, AI and advanced systems are reshaping the aerospace workforce.

By Nilopal Ojha, MarketsandMarkets

Artificial intelligence, predictive analytics and autonomous systems are reshaping aviation work across the industry, changing not only the technologies people use but the skills, judgement and adaptability increasingly required of the aerospace workforce.

Aviation has always evolved through technology, from radar and fly-by-wire to composite airframes. But the current wave is different in scope and speed. It is not confined to the cockpit or the factory floor. It is touching design, manufacturing, maintenance, air traffic management, training and even hiring itself. The result is a workforce in transition, where the core question for aerospace professionals is no longer, "Will AI affect my job?" but, "How do I work alongside it?"

A Sector-Wide Shift

The scale of adoption is already substantial. More than 50% of aerospace firms have integrated AI tools into their development processes, reshaping traditional engineering roles, while AI-driven predictive maintenance and autonomous systems have accelerated hiring needs by roughly 15% annually. Deloitte's 2026 industry outlook frames this as a talent strategy issue as much as a technology one: the focus is shifting from hiring narrow AI specialists to embedding AI fluency across the workforce, building resilience and adaptability.

On the operations side, many firms are piloting AI-enabled inspection systems to speed turnaround times and improve accuracy, part of a broader move from isolated analytics towards embedded workflows spanning inspection, predictive health, inventory positioning and repair scheduling. Nearly 75% of aerospace and defence executives expect AI-driven automation to significantly improve operations in the next few years, and that expectation is rapidly becoming an operational requirement rather than an experiment.

Engineering And Design: From Drafting To Ai Management

Design work is where the shift is most visible. AI tools are handling routine simulation and drafting tasks that once consumed junior engineers' time. Modern simulation platforms now embed AI surrogate models that can approximate complex structural and fluid-dynamics analyses in seconds rather than hours. Generative-design tools are increasingly used for components produced through additive manufacturing, while systems-engineering platforms are adding AI-powered consistency checks to identify requirements conflicts.

According to MarketsandMarkets, the artificial intelligence in aviation market is expected to grow from USD 1.75 billion in 2025 to USD 4.86 billion by 2030.

Despite this, the broader direction is towards augmentation rather than replacement. Aerospace projects still require engineers to navigate competing requirements, make trade-off decisions and communicate technical risk. The skill baseline, however, is rising. Data science, data engineering, AI, data analysis, machine learning and statistical analysis are expected to be among the fastest-growing skills in aerospace and defence.

Maintenance, Repair And Overhaul

Maintenance is one of the clearest cases of AI creating operational leverage. Predictive and condition-based maintenance models are changing the way inspection and intervention are planned, while AI-assisted inspection can help reduce turnaround times in an industry facing capacity pressure.

This is also reshaping the technician's role: less routine checklist work and more interpretation of AI-flagged anomalies, supported by data-driven decisions about what to repair and when. The technical expertise does not disappear; rather, it is increasingly combined with the ability to interpret and challenge information generated by digital systems.

The Flight Deck And Training Pipeline

Pilot training is being reshaped by AI, virtual reality and data analytics, but with a clear boundary around authority and professional judgement. Data-driven, evidence-based training can allow instructors to focus time where it matters most. Instead of repeatedly training skills a pilot has already mastered, tools can help direct attention towards genuine performance gaps, while automatically generated post-session reports can reduce instructor paperwork.

Even so, the expansion of digital tools will require changes in the skills and training pathways of operators. As automation and AI systems become more widespread, human roles are likely to move further towards supervision, control and the management of critical situations, a trend already visible in discussions around reduced-crew and single-pilot operating concepts.

ATC, Regulation Rules Catching Up

Regulators are developing frameworks for AI-assisted systems as aviation technology advances. The FAA has published work addressing aircraft automation and safety, while EASA has developed guidance covering AI assistance and human-AI teaming, including AI assurance, human factors and data-driven machine learning.

Institutional responses are also increasingly focused on people. Workforce planning, AI literacy, recruitment,



training and retention are becoming part of the same conversation as technology procurement. The challenge is no longer simply whether an organisation can acquire advanced systems, but whether its people have the skills to use, supervise and question them effectively.

New Roles Emerging Alongside Old Ones Changing

The shift is not only about existing jobs being modified. New categories of work are appearing alongside them. These include UAS operators and systems integrators, technicians who maintain drones, data analysts who interpret collected imagery, engineers who integrate unmanned systems into existing airspace, and AI and machine-learning specialists working on autonomous flight systems, predictive maintenance, cybersecurity and simulation environments.

Hiring itself is also changing, with AI tools increasingly used to screen CVs against complex technical requirements and to support strategic workforce planning through predictive analysis of future talent demand.

Which Skills Now Matter Most

Across engineering, operations and maintenance, a consistent skills profile is emerging. Fluency in data science, AI applications, cybersecurity, automation management and digital systems is becoming increasingly important.

But soft skills have not been displaced. Adaptability, critical thinking, problem-solving, communication and continuous learning remain essential.

The strongest profile is therefore likely to combine operational credibility with digital adaptability rather than one at the expense of the other. Aviation jobs are not simply disappearing uniformly; many are shifting towards more technical, hybrid and digitally fluent roles. The net effect looks increasingly like role transformation rather than wholesale replacement.

The Bottom Line

The aerospace workforce is not being replaced by automation so much as it is being redefined by it. Engineers are becoming managers of AI-enabled systems as well as designers; maintenance technicians are becoming data interpreters as well as hands-on specialists; and pilots and controllers are increasingly working with more capable automated systems while retaining responsibility for safety-critical decisions.

Organisations and individuals that treat this as a workforce redesign challenge, investing in upskilling, cross-disciplinary training and effective human-AI collaboration rather than treating AI as a bolt-on tool, will be better positioned as aviation's technology curve continues to steepen. ✂

SOURCE: *MarketsandMarkets*

AVIATION SECURITY IS STILL A PEOPLE BUSINESS

As technology, cyber risk and increasingly complex threats reshape aviation security, Yolanda Vermeulen argues that the strongest defence remains a capable human system: people who can recognise risk, exercise judgement, speak up and act.

By Yolanda Vermeulen - Director Ardent Aviation Group

Aviation security is becoming an increasingly sophisticated discipline. Artificial intelligence, biometrics, data analytics, advanced screening technologies and the convergence of physical and digital security are changing the tools available to aviation-security professionals as the threat environment continues to evolve.

Yet for Yolanda Vermeulen, AVSEC PM, Managing Director of Ardent Aviation Group and a SACAA-accredited Aviation Security Instructor, the fundamental strength of an aviation-security system still rests with people.

"Technology is becoming extraordinarily capable, but aviation security remains fundamentally a human system," she says.

A machine can generate an alarm. A camera can identify unusual activity. Data analytics can detect a pattern and screening technology can highlight something requiring further investigation. But someone still has to interpret that information, understand its context and decide what happens next.

It is at this intersection between technology, procedure and human judgement that Vermeulen believes the aviation-security profession is changing most significantly.

From Procedure To Judgement

Vermeulen recently completed the ICAO Aviation Security Professional Management Course, developed by ICAO in collaboration with the John Molson School of Business at Concordia University, earning the international AVSEC Professional Manager designation.

The programme combines aviation-security expertise with management disciplines including strategic planning, leadership, human resources, financial and project management, performance measurement and organisational development.

For Vermeulen, its significance lies less in another qualification than in the change of perspective it demands.

Instead of simply asking what a regulation requires, security managers increasingly need to ask how a security system can be built, managed, measured and continually improved within a real operational environment. That requires more than technical expertise.



A technically excellent security solution that cannot realistically be funded, staffed, implemented or supported by an organisation will ultimately not be an effective solution, she argues. Senior security professionals therefore need to understand budgets, motivate expenditure, lead people, manage change, measure performance and communicate security priorities to executives who may not necessarily "speak security".

It reflects a broader change taking place within the profession.

Traditional AVSEC knowledge remains essential, but today's security professional increasingly needs an understanding of cybersecurity, data protection, artificial intelligence, biometric systems, remotely piloted aircraft, insider threats, behavioural indicators, risk management and emerging technologies.

The distinction between physical and digital security is becoming increasingly difficult to maintain.

"We are gradually moving from being custodians of procedures towards becoming managers of complex security risk," Vermeulen says.

That also means working beyond the traditional security department. IT specialists, engineers, safety and quality managers, data analysts, regulators, intelligence

services, human-resources departments and senior executives increasingly form part of the wider security environment.

No single department possesses all the knowledge required to address the security risks facing modern aviation.

When The Checklist Is Not Enough

Procedures remain essential in a highly regulated industry, but operational circumstances do not always fit neatly into them.

This is where Vermeulen sees experience, situational awareness, critical thinking and the confidence to question something that does not look or feel right becoming particularly important.

People become vulnerable when familiarity turns into complacency, or when dependence on technology begins to replace professional curiosity.

One phrase particularly concerns her: "We have always done it this way."

Routine creates familiarity, and familiarity can create blind spots. As the threat environment evolves, security thinking has to evolve with it.

Technology should therefore strengthen professional capability and judgement rather than replace them. This has direct implications for training.

As an aviation-security instructor, Vermeulen believes the industry needs to stop confusing attendance with competence.

Completing a course, passing an examination and receiving a certificate does not necessarily mean that someone can recognise, assess and respond appropriately to a real security threat.

Training needs to develop the ability to think and question as well as impart knowledge.

Scenario-based training, practical exercises, security tests and real-world case studies can place learners in situations where they have to apply what they know: What are they seeing? Why should it concern them? What happens next? Who needs to know? And what should they do when the situation does not fit perfectly into the procedure?

Understanding why a procedure exists becomes particularly important when the unexpected occurs.

The objective, Vermeulen says, should not simply be people who can pass an examination, but competent, confident and security-conscious professionals capable of applying their knowledge in an operational environment.

Security When Nobody Is Watching

Competence alone, however, does not create a strong security system. Organisational culture determines whether people actually use it.

Vermeulen draws a clear distinction between an organisation that complies with security regulations and one in which security has become part of everyday behaviour.

A compliance-driven organisation may have procedures, records and completed training and pass the necessary

audits. A genuine security culture is visible in what employees do when there is no audit taking place.

People challenge unfamiliar individuals. They protect access credentials. They report suspicious behaviour.

They question something that does not look right.

Crucially, they also believe that they can speak up.

Leadership determines whether that happens.

When someone raises an uncomfortable security concern, management's response can determine whether that employee will report something again. It also sends a message to everyone watching.

Trust, Vermeulen argues, is not created by a statement in a policy or manual. It develops through consistent leadership behaviour.

Security personnel also need to know that management will support a reasonable and defensible security decision when it causes operational inconvenience, delay or additional cost.

There will inevitably be commercial and operational pressure in aviation. Sometimes security has to say no.

That requires courage from the person making the decision and leadership willing to stand behind it.

"A security programme sitting beautifully in a file does not protect an aircraft. People do."

An African Operating Reality

The human dimension becomes particularly important across Africa because there is no single African aviation operating environment.

Sophisticated international airports equipped with advanced screening technologies operate alongside regional airports, charter companies, general aviation, mining and resource operations, humanitarian aviation and aircraft working from remote and challenging locations.

Vermeulen argues that security solutions designed around major international hubs cannot simply be transplanted into every one of those environments. The security objective and international standard should remain consistent, but how those objectives are achieved needs to be risk-based, practical and appropriate to the operation.

Technology is part of that equation, but sophisticated or expensive equipment alone does not determine whether aviation security is effective.

Good procedures, competent and alert people, access control, supervision, intelligence and information sharing, security awareness and a healthy reporting culture remain powerful security measures.

Training likewise needs to reflect where people actually work.

There is little value in training someone exclusively through scenarios based on a major international terminal if that person's daily environment is a remote airstrip, charter operation or an aircraft supporting mining or humanitarian activities.

The principles remain consistent. Their application can be very different.

"The answer is not to lower the standard to accommodate African operating realities," Vermeulen



says. "It is to find intelligent, practical and sustainable ways of achieving that standard within those realities."

Developing Africa's Next AVSEC Leaders

Vermeulen does not believe Africa lacks aviation-security talent. The more important question is whether enough is being done to develop that talent into advanced management and leadership capability.

The skills required are broadening. Future AVSEC leaders will increasingly need to connect security, risk, technology, regulation, people and business strategy. Cybersecurity is part of that picture, alongside insider-risk management, quality control, security risk assessment, emerging technologies, performance measurement and strategic security management.

At the same time, the industry faces another human challenge: transferring knowledge.

Africa has aviation-security professionals with decades of operational and regulatory experience. Vermeulen believes that institutional knowledge needs to be deliberately captured and passed to the next generation while being combined with the new skills future professionals will require.

That cannot happen through qualifications alone. Younger professionals need mentoring, exposure, challenge and meaningful responsibility. Experience and learning alongside people who have spent years in the operational environment remain critical.

For those aspiring to senior AVSEC management, policy or consulting roles, her advice is straightforward: learn the operation first.

Understand what happens at the checkpoint, around the aircraft, in cargo operations and at access-control points. Speak to the people performing the work. Then

broaden that practical foundation through regulation, risk management, quality assurance, auditing, safety management, dangerous goods, human factors, investigation, cybersecurity and business management.

Communication skills matter too. Senior professionals increasingly have to translate complex security and regulatory requirements into policies, programmes, risk assessments and reports that people can understand and implement.

Ultimately, professional value comes not simply from knowing where to find a regulation, but from understanding the requirement, assessing the actual risk, considering the operational reality and developing a solution that is compliant, proportionate and workable.

Everyone Is Part Of The System

Perhaps the most important misconception Vermeulen would like to change is that aviation security belongs to the security department.

It does not. The receptionist who notices an unfamiliar visitor, the engineer who sees something unusual near an aircraft, the crew member who questions an item, the cargo employee who spots inconsistent documentation and the manager who creates an environment in which people are prepared to speak all form part of the same security system.

Technology will continue to evolve, as will the environment in which aviation-security professionals operate.

But the ability to notice, interpret, question and act remains human.

As aviation adopts increasingly capable technology, that may be one of the most important security lessons of all. Aviation security remains a people business. ✂

PROTECTING AFRICAN AIRSPACE WHY TRUST MATTERS MORE THAN TECHNOLOGY

By Victoria Lebogang Mofolo – Founder & Principal Consultant. VLM Aviation Infrastructure Advisory (Pty) Ltd

Having spent much of my career in CNS/ATM environments, I have witnessed how confidence in operational information underpins every safe decision made within the air navigation system.

Across Africa, air navigation service providers are investing in modern surveillance technologies to improve safety, efficiency and connectivity.

One of the most significant developments in recent years has been the increasing adoption of Automatic Dependent Surveillance-Broadcast (ADS-B), a technology that enables aircraft to continuously transmit position, altitude and other flight information to air traffic management systems and nearby aircraft.

For many African states, ADS-B represents far more than a technological upgrade. It offers an opportunity to improve surveillance coverage across vast regions where conventional radar infrastructure may be economically impractical, supporting safer and more efficient airspace management.

Yet, as aviation becomes increasingly dependent on digital technologies, an important question deserves greater attention: What happens when the information we depend upon can no longer be fully trusted?

Beyond Technology: A Question Of Confidence

As surveillance systems become increasingly digital, cybersecurity is no longer simply an IT issue. For Africa's modernising airspace, the real challenge is preserving confidence in the information that supports safe operations.

When cybersecurity is discussed, attention often focuses on hackers, networks and malicious attacks. These concerns are important, but from an operational perspective the challenge extends much further.

Controllers trust the surveillance picture displayed before them. Engineers trust the integrity of systems. Pilots rely on the information supporting their decisions. In many respects, aviation itself is built upon confidence.

ADS-B was originally designed to improve surveillance performance and interoperability. It was not developed with today's cybersecurity threat landscape in mind. Its open architecture has brought tremendous operational benefits, but it has also introduced new vulnerabilities.

The issue is not simply whether a signal can be disrupted, manipulated or imitated. The more important question is whether operational stakeholders can continue to make safe and informed decisions when confidence in surveillance information becomes uncertain.



About The Author

Victoria Lebogang Mofolo is Founder and Principal Consultant at VLM Aviation Infrastructure Advisory (Pty) Ltd and a former Senior Manager: Technical Services within the air navigation environment.

She specialises in CNS/ATM systems, operational resilience and cybersecurity governance for safety-critical infrastructure. She is currently undertaking doctoral research focused on cybersecurity resilience in ADS-B-enabled air traffic management systems, with particular interest in surveillance trust and the future of resilient aviation infrastructure across Africa.

Why Ads-B Matters To Africa

African aviation continues to evolve. Growing traffic demand, regional integration initiatives and investments in modern infrastructure are reshaping the continent's airspace environment.



Unlike many mature aviation regions with extensive radar coverage, African states often face unique realities:

- Vast geographical areas
- Limited infrastructure budgets
- Remote and underserved regions
- Growing demand for efficient surveillance solutions

ADS-B has emerged as an attractive answer to many of these challenges. Its ability to provide surveillance coverage without the cost and complexity associated with extensive radar networks has made it an important component of airspace modernisation programmes across the continent.

Digital transformation, however, must be accompanied by equal attention to resilience. Cybersecurity should not be viewed as an obstacle to progress. It should be viewed as an enabler of safe and trusted modernisation.

Understanding The Threat Landscape

Two cybersecurity concepts frequently discussed in aviation are spoofing and jamming.

ADS-B spoofing or data manipulation can involve false information being introduced into the surveillance environment in a way that appears legitimate. This can potentially result in false or duplicated aircraft tracks, misleading position information or other anomalies in the surveillance picture.

A related but distinct threat is GNSS spoofing, where counterfeit satellite signals cause a receiver to calculate incorrect position, navigation or timing information. Because ADS-B position reporting can depend on GNSS-derived information, interference with GNSS can also affect the integrity of the surveillance information being transmitted.

Jamming involves radio-frequency interference that disrupts signal reception and can degrade or prevent the availability of navigation or surveillance information. These scenarios highlight a broader challenge confronting modern aviation.

As dependence on digital technologies increases, maintaining confidence in surveillance information becomes just as important as maintaining system availability. This is not a reason for alarm. It is a reason for preparation.

Why Resilience Matters More Than Perfect Security

In my experience, aviation has never depended upon perfect systems. It has depended on layers: procedures, human expertise and the ability to continue operating safely when conditions are less than ideal.

Perfection has never been the objective. Safe operations have. Cyber resilience follows the same philosophy.

A resilient surveillance system is not one that never experiences disruption. It is one that enables safe operations when disruptions occur.

Ultimately, resilience is about preserving operational confidence.

Building A Resilient Future

As someone currently researching ADS-B resilience, I have become increasingly convinced that future resilience will depend as much on people, governance and preparedness as on technology itself.

Technology alone will not solve the challenge. Trust, preparedness and collaboration will.

The future of African aviation will depend increasingly on digital technologies, interconnected systems and data-driven decision-making.

The conversation surrounding aviation cybersecurity is changing. It is no longer solely about protecting networks. It is about protecting confidence.

Because when confidence in surveillance information becomes uncertain, operational decisions become more difficult. And in aviation, confidence is inseparable from safety. Trust is not simply a technical requirement. It is a safety requirement.

What Should African ANSPs Be Thinking About?

Build cybersecurity into system design Cybersecurity resilience should be incorporated from the beginning rather than introduced as an afterthought.

- **Strengthen surveillance diversity:** Multiple sources of information improve confidence and support safe operations during abnormal situations.
- **Develop operational resilience capabilities:** Technology alone cannot solve every problem. Procedures, training and organisational preparedness remain equally important.
- **Invest in people:** Future resilience will depend not only on systems, but also on engineers, controllers, technicians and cybersecurity professionals who understand how these environments interact.
- **Encourage collaboration:** Regulators, ANSPs, airlines, equipment manufacturers and academia all have a role to play in strengthening African aviation resilience. ✈️

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GOOD CREW, BAD CREW

Supplementary Safety and Performance Guide

By Johan Lottering



GOOD CREW, BAD CREW – Supplementary Safety and Performance Guide is a substantial work written over fourteen years by Johan Lottering. At its heart, it examines a deceptively simple question: why do good and competent people sometimes make bad decisions when operating under pressure in high-stakes environments?

Aviation provides the principal lens through which Lottering examines this question, but the book deliberately reaches far beyond aviation. Its overall purpose is leadership development, self-study and personal evaluation.

The author does not, however, allow aviation to escape scrutiny. Since the Tenerife Air Disaster, in which 583 people died when two Boeing 747s collided on the runway at Los Rodeos Airport, Crew Resource Management (CRM) has undergone successive generations of development and continues to evolve alongside technological change.

Yet people still die in aviation accidents. The book therefore asks whether the tools currently available to us

are sufficient, and whether we sometimes need to look deeper to understand why disasters occur.

The author suggests that some of the influences affecting human behaviour may lie beyond what conventional analytical tools are equipped to perceive. He acknowledges that there is no empirical evidence to support some of these propositions, but nevertheless suggests that deeper observation, detection and discernment may provide useful additional perspectives.

He also considers the Christian worldview as one possible lens through which human behaviour and decision-making can be examined, without attempting to impose that belief system on the reader. The book suggests that ancient wisdom may still have relevance in understanding aspects of human behaviour that modern human sciences and philosophies do not always fully explain.

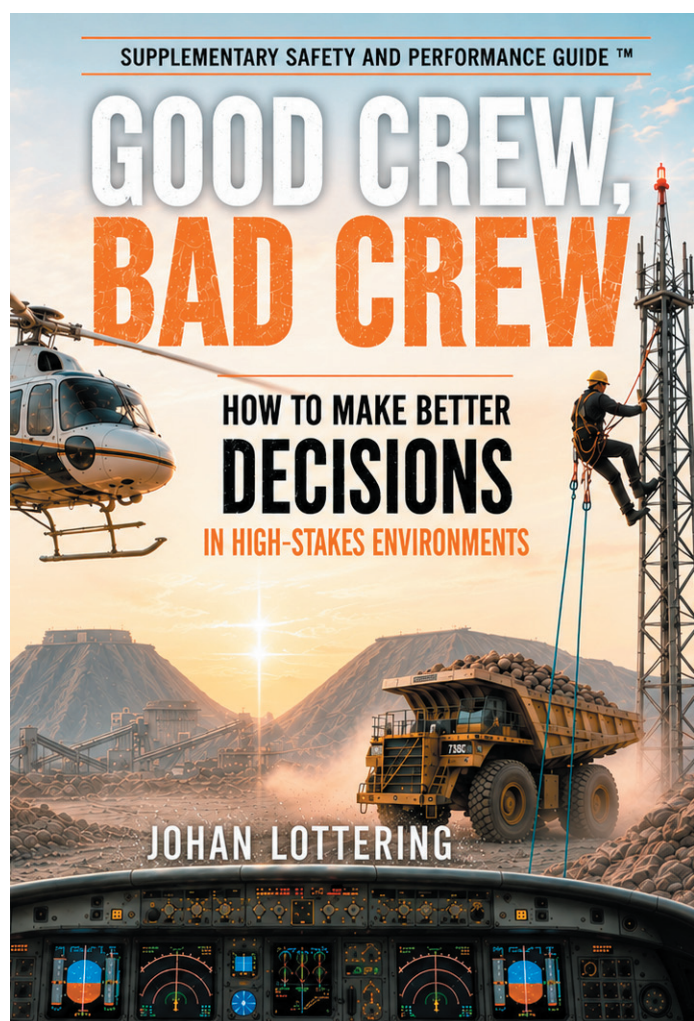
The lessons drawn from aviation are then applied to a remarkably broad range of environments. The book considers disasters and failures in areas including mining, maritime operations, farming, boxing, brick manufacturing, skydiving and even the challenges of evangelising in rural communities.

Across more than 20 chapters, the reader encounters a different perspective in each case. The subjects are deliberately varied, and the author avoids presenting one case study as simply another version of the previous one. Instead, each scenario is intended to challenge the reader to reconsider how human beings think, behave and make decisions under different forms of pressure.

The structure of the book is equally deliberate. It begins with a synopsis designed to prepare the reader for what follows and is divided into four distinct modules, each following broadly the same philosophy while applying it to different circumstances. The book then introduces a five-layer analytical structure. It progressively examines where behavioural discrepancies may manifest or have an impact, at the level of the individual, the team, the group, the organisation and, ultimately, society.

Rather than relying exclusively on conventional single-root-cause analysis, Lottering proposes examining weaknesses through different analytical lenses and selecting those that are most applicable to the circumstances under investigation. The intention is to move towards a deeper understanding of the human being in the workplace, with an emphasis on both safety and performance.

At the end of each chapter, Key Take-Aways provide the reader with points for reflection and self-evaluation. This is not, however, a book for someone looking for a quick fix or a simple formula for achieving an immediate result. It rewards patience, self-study and reflection. In that respect, it is perhaps better approached as a book to return to rather than one to rush through. The reader is encouraged to pause, consider and ponder the implications of what has just been presented. ✍



Target Readership

The target readership is particularly those in leadership positions who wish to broaden their vision and deepen their understanding of human behaviour, decision-making and organisational performance. Yet the approach is pragmatic. The reader may finish a chapter with a different perspective on aspects of society, the workplace or human behaviour than they had before reading it.

The book's value lies partly in this ability to challenge established assumptions. It asks the reader not simply to identify what went wrong, but to consider why people behaved as they did and what deeper influences may have shaped their decisions.

The result is a work that crosses the traditional boundaries between aviation safety, leadership, human factors and organisational behaviour.

Ultimately, *GOOD CREW, BAD CREW* is an invitation to look more deeply at the human element in high-stakes environments. It argues, in essence, that better safety and performance cannot be achieved simply by adding more procedures, technology or rules. We also need to understand the people who operate within those systems, their perceptions, behaviour, relationships, decisions and the pressures under which they operate. The reader is finally offered a brief spiritual reflection,

bringing the book's exploration of human behaviour back to the deeper questions of meaning, responsibility and personal conduct.

For those prepared to take the time to reflect on its ideas, *GOOD CREW, BAD CREW* offers a challenging and unconventional perspective on leadership, decision-making and safety, one that begins in aviation but ultimately asks questions relevant to many areas of human endeavour.

ABOUT THE AUTHOR

Johan Lottering has been involved in South African aviation since obtaining his Private Pilot Licence in 1979.

Over more than four decades he has worked across a wide range of aviation disciplines, including journalism, flight operations, instruction, business, publishing and aviation regulation.

An Airline Transport Pilot Licence holder and Flight Instructor, he accumulated approximately 6,500 flying hours, including about 3,000 hours of flight instruction.

He later served as a Testing Standards Officer with the South African Civil Aviation Authority (SACAA), where he was National Examinations Moderator for pilot examinations from PPL to ATPL and contributed to aviation training standards, curricula and safety initiatives.

His career has also included leadership roles in aviation organisations, extensive writing and editorial work, and a long association with World Airnews. He has authored several aviation books and articles on safety, training, human factors and flight operations.

Good Crew, Bad Crew represents the culmination of this multidisciplinary experience and his longstanding interest in a fundamental question: why do capable people sometimes make catastrophic decisions under pressure?

A Human Factors Perspective

The book's broader significance is captured by Matita Tshabalala, an Industrial and Organisational Psychologist, Aviation Psychologist and Human Factors expert:

"This work is what the safety profession has been circling for years without landing on: the recognition that our systems fail not only because of what they miss, but because of what they are structurally incapable of perceiving."

Tshabalala highlights what may be one of the book's most important departures from conventional safety thinking: its treatment of the human being as a whole person, physical, cognitive, emotional, social and moral, rather than simply as a source of error to be trained, tested and controlled.

For a book that begins with aviation but reaches into many other high-stakes environments, that distinction is central to its message.

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The late Garry Marshall CEO of South African Express Parcel Association IMAGE CREDIT: SAEPA

A MAN FOR ALL SEASONS

Rob Garbett remembers his great friend and colleague Garry Marshall, a man whose long career in aviation, airfreight and logistics was defined as much by integrity as achievement.

By Rob Garbett

I write with immense sadness at the recent passing of my great friend and colleague, Garry Marshall. Garry was a man amongst men, truly outstanding in every meaning of that word. He was honest to the core, with a belly laugh that really moved his not inconsiderable midriff.

I met Garry more than 60 years ago, when he took over from me as MD of Advertising Deadlines and Freight, a domestic airfreight consolidator. He was also a friend of my darling wife even before I met her.

Over the years, Garry became one of the most respected figures in South Africa's aviation, courier and supply-chain industries. He served as CEO of the South African Express Parcel Association, SAEPA, from 2004 and led BidAir Cargo for many years. His career encompassed airlines, airfreight, express parcels and logistics, but titles alone do not adequately describe the contribution he made.

His contribution to the aviation and supply-chain industries will not easily be matched. The standards of

ethics he upheld and his approach to business leave us a legacy from which the industry, and indeed the public, will continue to benefit.

His integrity and adherence to good business practice are, and will remain, his business epitaph. Let us sincerely follow in the footsteps of this giant of our industry and use the standards he set as a yardstick for the way things should be done.

It is not laws that are the pillars of our industry. It is people. No law can demand complete and uncompromising adherence and expect total success. We are human and do not always do the right thing. It is through people such as Garry, and the standards they set both ethically and operationally, that we are reminded of how we ought to conduct ourselves. And, of course, I believe Almighty God ultimately determines our behaviour.

I wonder sometimes: where have all the flowers gone? Where are those outstanding men and women who set the positive yardsticks in our industry?

We must give every support to those who have proved their worth and are still with us, those who stand up to be counted and who are not afraid to say what needs to be said. They are the pioneers of all that is positive in the careers we have chosen.

I am unable to contribute any more than what I have said this month. My sadness overwhelms me. ✍️



The Commercial Aviation Association of Southern Africa

CAASA is a non-profit organisation formed in 1944 to promote and protect the commercial interests of the general aviation industry in South Africa



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