# TATS BULLETIN


## Top Aviation news and insights!

October , 2025

# THE AVIATOR TRAINING SCHOOL

MONTHLY MAGAZINE

# CONTENT

# Letter From the Expert

Rajat Ahuja
Aviation English Examiner
(CAD Serbia)
Captain Airbus A380

It is a privilege to extend my warmest wishes to the bright and dedicated cadets of The Aviator Training School on the occasion of your winglet batch epauletts ceremony. Witnessing your journey through rigorous training and your commitment to mastering the art and science of aviation fills me with great optimism for the future of this industry.

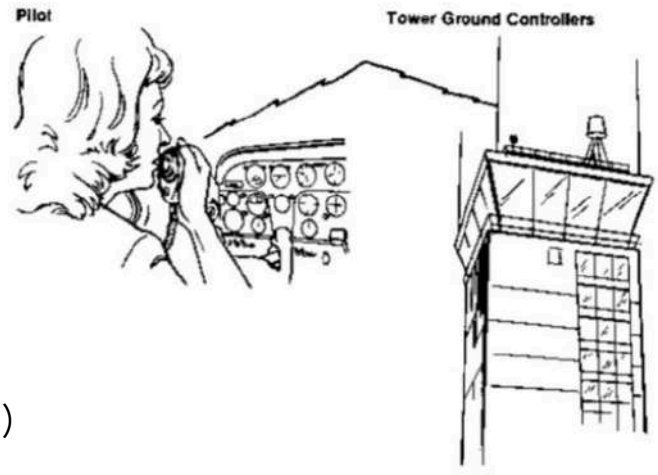
Aviation safety and excellence are built on a foundation of knowledge, discipline, and effective communication. The path you have chosen demands continuous learning, resilience, and a passion for precision. As you advance in your careers, remember that every detail matters — Every detail matters that this profession is not just about flying an aircraft-it is about embodying precision, leadership, and calm under pressure.

Having accumulated over 12,000 hours on the Airbus A380 and A320, I can affirm that true professionalism comes from embracing challenges and adapting with courage and wisdom. Training programs like yours are vital in preparing capable aviators who will keep our skies safe and inspire future generations.

Keep striving for excellence, uphold the highest standards, and take pride in the privilege of being an aviator.

***"The sky is vast, but so are your opportunities. Fly safe, fly smart, and may your passion for aviation always guide your journey."***

# Aviation English




Rajat Ahuja
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Safety is a number one priority in aviation with effective communication being an essential contributing factor. Slight misunderstandings in language between pilots and air traffic controllers (ATCs) could affect the meaning of a message and become an obstacle that could lead to severe consequences.

Introducing language proficiency requirements to demonstrate adequate knowledge of English is an extra layer of safety since there is less room for error or misinterpretation. Pilots and ATCs require intensive training throughout their careers and demonstrating language proficiency is one of them. The key to a successful relationship is effective communication and this couldn't be more applicable in this field.

For pilots and ATCs to communicate clearly and efficiently around the world, a universal aviation language had to be established. Both parties work closely together to exchange crucial information about the aircraft, flight, crew members, and passengers as well as other external factors and situational awareness that help ensure safe and efficient operations.

As English was chosen as the language of the skies at the Chicago Convention in 1944, ICAO first began addressing language proficiency for pilots and ATCs in September 1998. In 2008, an ELP test was established as part of the requirements for pilots and ATCs to be fully qualified.

Aviation English is known globally for the phonetic alphabet. The phonetic alphabet is called the International Radio Telephony Spelling Alphabet, International Civil Aviation Organization (ICAO) phonetic alphabet and the North Atlantic Treaty Organization (NATO) phonetic alphabet. The phonetic alphabet consists of distinct words assigned to each letter of the English alphabet.

While alphabet spelling was used in several ways through the history of aviation, naval communication and radio communication, the International Radio Telephony Spelling Alphabet was introduced in 1951.An advantage of having a standard language for pilots and ATCs to communicate is that pilots flying in the same airspace can monitor air traffic transmissions and increase their situational awareness.

*Since miscommunication and language barriers are human errors that could* ***gravely impact*** *flight safety and put those on board at risk, the International Civil Aviation Organization (ICAO) established English Language Proficiency* ***(ELP)*** *requirements for pilots and ATCs.*

The ELP rating scale established by the ICAO encompasses six levels, from Level (1) "pre-elementary" to Level (6) "expert."Pilots and ATCs must demonstrate at least Level (4) "operational" proficiency, which calls for vocabulary that is "usually sufficient" to communicate on work-related topics and comprehend discussion of those topics and to engage in exchanges "even when dealing with an unexpected turn of events." It includes requirements for pronunciation and basic grammatical structure, and stresses that the person must deal adequately with apparent misunderstandings by checking, confirming, or clarifying."

Regardless of the proficiency level, testing assesses Pronunciation, Structure, Vocabulary, Fluency,Comprehension,and.Interaction. https://www.catc.or.th/Test/ICAOLanguageProficiencyRatingScale.pdf. The validity of the test depends on the proficiency level acquired. Those who dominate the language at the expert level (6) do not need to be re-evaluated. Those at level (4) must test every three years, while those at level (5) every five years.


## COMMUNICATION ERRORS

Communication Errors are one of the biggest causal factors in both level busts and runway incursions in aviation. The information and instructions transmitted are of vital importance in the safe and expeditious operation of aircraft. Incidents and accidents have occurred in which a contributing factor has been the use of non-standard procedures and phraseology. Phraseology has evolved over time and has been carefully developed to provide maximum clarity and brevity in communications while ensuring that phrases are unambiguous. Below are a few tips through which errors can be mitigated:

o Adhere to standard communication procedures and radio phraseology including readback unless - callsign abbreviation has been introduced by ATC, specifically adapting the callsign to mitigate the risk of callsign confusion.
o Not clip or cut off transmissions. o Report to ATC immediately all deviations from a previously received clearance, as soon as they are identified. o Always use headsets during times of high workload.
o At critical stages of flight, actively monitor ATC instructions and compliance with them.
o Request clarification should any ATC communication be unclear, or whenever any flight crew member is in doubt regarding a clearance, or an instruction received.
o Always question unexpected instructions for any phase of flight.
o Each ATC clearance should be readback by the Pilot Monitoring and confirmed by the Pilot Flying prior to acting on the clearance.

Where a single pilot is acting as both the Pilot Flying and Pilot Monitoring an additional confirmation readback should be given to the ATC prior to executing a clearance.

*For Example:*
***ATC*** *- "Super 123, descend FL100".*

***Pilot*** *– "Descend FL100, Super 123" (Confirmation 1)*

***Pilot*** *– "Super 123, leaving FL400 descending FL100" (Confirmation 2).*

**Introduction of Controller Pilot Data Link Communications (CPDLC)** is the step in the right direction for safer and efficient skies.

Controller Pilot Data Link Communications (CPDLC) is a means of communication between ATCs and pilots, using data link for ATC communications. (ICAO Doc 4444: PANS-ATM) Typically, communication between ATCs and pilots is done through radio calls either over VHF for short range communications (e.g., operating over the U.S. or Europe) or HF for long range communications (e.g., over oceanic areas).

## RADIO COMMUNICATION SUFFERS FROM SEVERAL SERIOUS DRAWBACKS:

o It is limited to one radio call at a time and if two stations call at the same time often neither are decipherable – you will often hear pilots call "blocked" on the frequency and the calls must be repeated.
o Voice calls take a certain amount of time – for example a clearance that is issued by ATC must be "readback" by the pilot and that readback in turn must be confirmed to be correct by the ATC.
o Poor reception and signal distortion in some areas is particularly relevant for long-range HF radio calls.

## THE ADVANTAGES THAT CPDLC PROVIDES ARE:

o Increased ATCs efficiency by reducing required communications and reducing ATCs workload.
o A reduction in possible voice communication errors by both pilots and ATCs due to language barriers.
o Reducing the chance of VHF frequencies being "blocked" by simultaneous transmissions, thereby increasing airspace utilization.
o Allowing different communications at the same time thereby increasing the speed of communication.

To conclude it is imperative that Aviation English proficiency should not be limited just for the pilots and ATCs but also other departments within the aviation industry.
e.g., Airline Dispatch, Engineering, Cabin Crew, Ground Services, Medical Services, Emergency Services to name a few. As this will ensure an equitable standard within the industry in maintaining a safe environment.

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# THE GOLDEN 90 SECONDS

In the high-stakes world of aviation, every second counts. When an emergency strikes, the response time can be the difference between life and death. This is where the concept of the "90-second rule" or "golden hour" comes into play.

## THE 90-SECOND RULE: A MATTER OF LIFE AND DEATH

The 90-second rule refers to the critical window of time during which emergency responders, such as airport rescue and firefighting (ARFF) teams, must respond to an aircraft emergency. This brief period is considered the most crucial in determining the outcome of an incident.

***"When a person has a reaction to something in their environment, there's a 90 second chemical process that happens in the body; after that, any remaining emotional response is just the person choosing to stay in that emotional loop."- JILL BOLTE TAYLOR***

## HOW IT WORKS

When an emergency is declared, the ARFF team springs into action, following a well-rehearsed protocol:

1. **Notification**: Air traffic control alerts the ARFF team of the emergency.
2. **Response:** The team rushes to the scene in specially designed vehicles.
3. Assessment: Upon arrival, the team assesses the situation and prioritizes actions.
4. **Evacuation:** Passengers and crew are evacuated from the aircraft.
5. **Firefighting:** Fires are extinguished, and measures are taken to prevent them from spreading.

## CREW TRAINING: THE FIRST LINE OF DEFENSE

But it's not just the ARFF teams that are trained to respond to emergencies. Flight crew members, including pilots and flight attendants, undergo rigorous training to prepare for emergency situations. They learn to:

- Assess emergency situations quickly and accurately
- Communicate effectively with the ARFF team and other crew members
- Prioritize passenger safety and evacuation procedures
- Provide critical assistance during emergency response

## CERTIFICATION AND TESTING

Regulatory bodies, such as the Federal Aviation Administration (FAA) and the European Union Aviation Safety Agency (EASA), require aircraft manufacturers to demonstrate full-scale evacuation that all passengers can be evacuated from an aircraft within 90 seconds using only half of the available emergency exits.


***"SOME CARRY THE FIRE WITHIN TO FIGHT THE FIRE"***

-The test simulates potential emergency scenarios, including blocked exits and fire.

*Passengers play a vital role in ensuring a safe evacuation by paying attention to safety briefings and following crew instructions.*

## THE IMPORTANCE OF TRAINING AND PREPAREDNESS

ARFF teams and crew members must be equipped, trained, and ready to respond at a moment's notice. This includes:

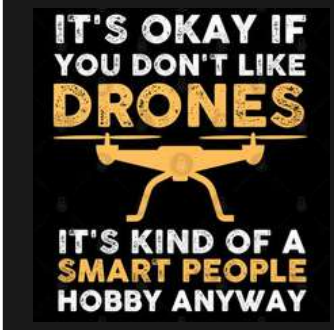
- Regular training exercises
-Equipment maintenance and upgrades
-Coordination with other emergency services

## IN CONCLUSION

The 90-second rule is a critical concept in aviation emergency response. It underscores the importance of rapid response, effective communication, and thorough training. By understanding the principles behind this rule, we can appreciate the heroic efforts of ARFF teams, crew members, and the importance of safety protocols in the aviation industry.

# RACING AGAINST TIME

*ADHITYAN A M*




# HOW DRONES AFFECT AVIATION?

Drones, or Unmanned Aerial Vehicles (UAVs), have rapidly changed modern aviation. They are used in military commercial,and recreational activities. Their presence in airspace has introduced new possibilities but also raised safety and regulatory concerns.

## 1. POSITIVE IMPACTS:

•**Surveillance and Inspection:** Drones are used to inspect aircraft, runways, and airport infrastructure, minimizing risks for workers.
•**Search and Rescue:** They assist in emergencies by providing aerial views in hard-to-reach areas.
•**Environmental Monitoring:** Drones monitor pollution, wildlife, and weather around airports.
•**Cargo and Delivery Services:** Companies use drones for deliveries, which can reduce road traffic and save time.


## 2. CHALLENGES AND SAFETY CONCERNS:

• **Airspace Integration:** Managing drones in controlled airspace is a major challenge.
• **Collision Risk:** Unauthorized drone flights near airports can endanger aircraft.
• **Regulation and Compliance:** Authorities must enforce rules for safe drone use.
• **Privacy and Security:** Cameras and sensors on drones can lead to privacy issues or misuse.

## 3.TECHNOLOGICAL AND REGULATORY DEVELOPMENTS:

•**Unmanned Traffic Management (UTM):** Systems are being developed to safely coordinate drone movements.
• **Geofencing Technology:** Prevents drones from flying into restricted areas.
• **Global Standards:** Organizations like ICAO are creating international drone operation standards.

## 4. FUTURE OUTLOOK:

Drones will play a larger role in aviation. Drone taxis, automated deliveries, and data collection are expected to grow. Safety, cybersecurity, and strong regulations will be key to successful integration into the aviation system.

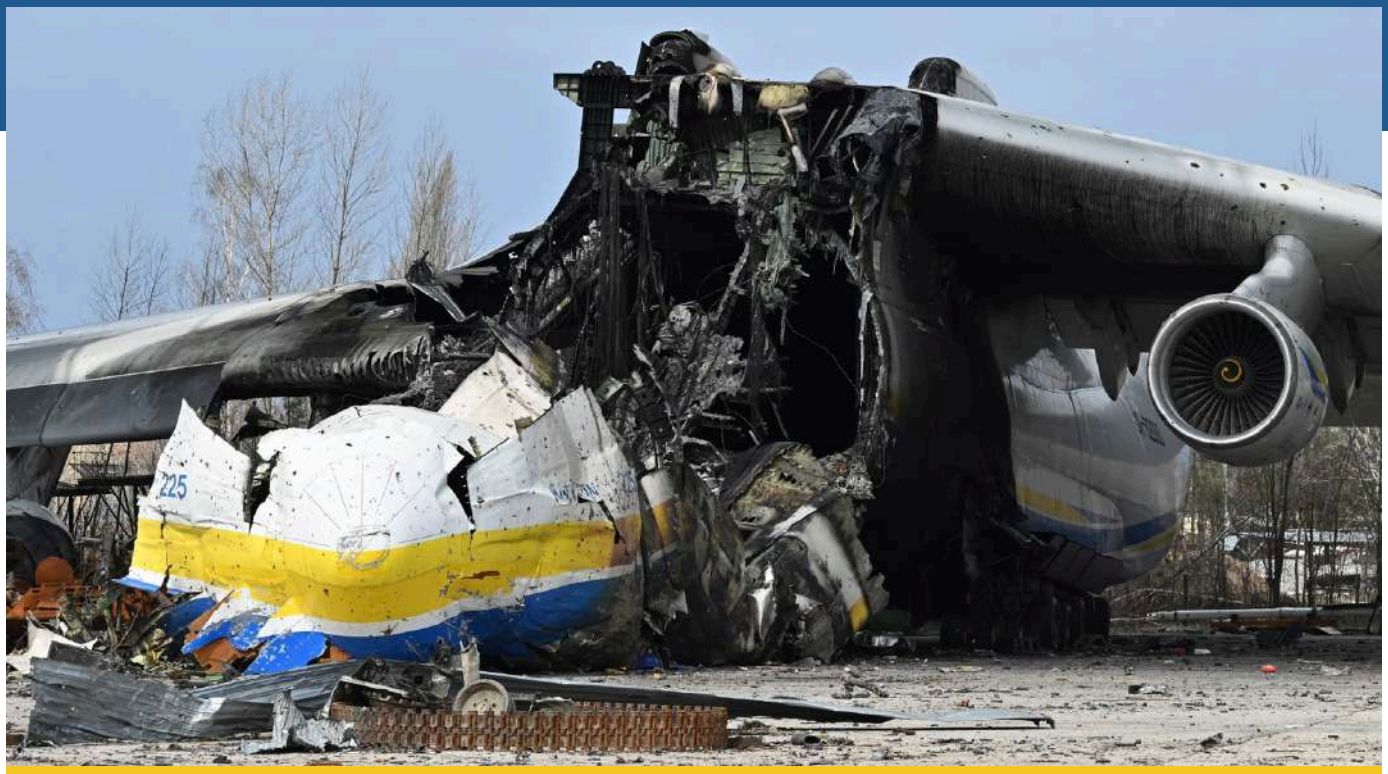
## CONCLUSION:

Drones are revolutionizing aviation. They offer innovation and efficiency but must be carefully regulated to ensure safety and privacy. Their future in aviation is promising, provided technology and policy evolve together.

*JISHNU LAL H*

# THE DREAM THAT FLEW

## Remembering the Antonov An-225 Mriya



The Antonov An-225 Mriya, which means "*Dream*" in Ukrainian, was more than just a plane. It was a record-breaking feat of engineering a source of national pride, and something that made people gasp wherever it flew. The An-225 was the biggest and heaviest plane ever made until it was destroyed in February 2022. It was a true giant of the skies. The Antonov Design Bureau in the Soviet Union came up with the An-225 in the 1980s because it was needed during the Cold War. Its main job was to carry parts of the Energia rocket and the Buran-class Soviet reusable space shuttles on its back. To do this amazing thing, Antonov engineers basically stretched and made the already huge An-124 Ruslan cargo jet even bigger and stronger.

The end result was a huge airplane that was 18 meters tall, 88.4 meters wide (which is wider than a football field), and 84 meters long.**Six Ivchenko Progress D-18T turbofan engines**, each producing an amazing 229.5 kN of thrust, powered this giant. It could take off with a maximum weight of an incredible 640 tonnes (1.4 million pounds) because of its incredible power, which earned it a spot in the Guinness World Records. Its huge internal cargo hold could hold up to 250 tons (550,000 pounds) of cargo, making it the best choice for moving large and heavy loads that no other plane could handle.

***Russia may have destroyed our (Antonov An-225) 'Mriya.' But they will never be able to destroy our dream of a strong, free and democratic European state. We shall prevail! –***

***Dmytro Kuleba, Ukrainian Foreign Minister***

The An-225 had a unique design that included a twin-tail empennage. This was needed to keep the turbulent airflow from the outside Buran shuttle from getting in the way. The aircraft could make sharp turns on runways thanks to its **32-wheel landing gear system,** which could steer itself. There was only one An-225 built, and the second one is still not finished.After the Soviet Union fell apart, the one An-225 became a commercial heavy-lift freighter. Antonov Airlines ran it, and it became a global wonder, regularly used to move military equipment, humanitarian aid, and important infrastructure parts across continents. When it arrived at an airport, it was a big deal that drew crowds of people who wanted to see the amazing machine.

**The "Mriya" was a gentle giant that helped humanity by moving the immovable, and it symbolized the height of aerospace engineering. Not only was an aircraft destroyed, but a special piece of aviation history—a flying dream that will live on in the history books—was also lost.**

DEVANANDA

# HUMAN FACTORS IN AVIATION

*The International Civil Aviation Organization (ICAO) defines human factors as the scientific discipline concerned with the understanding of interactions among humans and other elements of a system.*

## 1. INTRODUCTION

Human factors in aviation refer to the study of how humans interact with machines, environments, and procedures in flight operations. It focuses on improving safety, performance, and efficiency by understanding human limitations and capabilities. In aviation, even minor human errors can have significant consequences, so recognizing and managing these factors is vital.

## 2. IMPORTANCE OF HUMAN FACTORS

The main goal of studying human factors is to reduce human error. Pilots, air traffic controllers, and maintenance staff must work together with high levels of communication, coordination, and awareness. Fatigue, stress, poor communication, and complacency are among the most common causes of human error in aviation.

## Human Limitations

Understanding human limitations such as fatigue, attention span, memory, and perception helps in designing better systems and procedures. Pilots must be aware of their physical and mental conditions and take steps to manage them effectively during flight.

### 3.CrewResource Management (CRM)

Effective Crew Resource Management (CRM) training helps flight crews use all available resources — human and technical — to ensure safe flight operations. It emphasizes teamwork, leadership, decision-making, and situational awareness. CRM encourages open communication and mutual respect among crew members to prevent misjudgments and mistakes.

### 4. SAFETY AND TRAINING

Human factors are not just about avoiding mistakes; they are about creating an environment where people can perform at their best, even under pressure. Continuous training, self-awareness, and strong cockpit discipline are essential to maintaining safety and reliability in modern aviation.

### 5. CONCLUSION

Human factors play a crucial role in aviation safety. By understanding the strengths and limitations of human performance, the aviation industry can continue to improve systems, reduce errors, and ensure safer skies for everyone

*DEVANANDA MANIKANDAN*

# CAN PLANES GO GREEN?

Flying has always been one of humankind's greatest achievements. From the Wright brothers first flight to today's massive jetliners crossing continents in hours, aviation has connected the world like never before. But as we enjoy the comfort and speed of air travel, one question grows louder each year — can planes really go green?

Aviation has brought people closer, but it has also brought new environmental concerns. Airplanes burn huge amounts of jet fuel, which is made from fossil fuels. Every flight releases carbon dioxide and other gases high into the atmosphere, contributing to global warming. The white lines we see across the sky, called contrails, might look harmless, but they also play a role in trapping heat in the atmosphere. With air travel increasing around the world, finding cleaner ways to fly is no longer optional — it's necessary.

One of the biggest hopes for sustainable aviation lies in Sustainable Aviation Fuel (SAF). This fuel is made from renewable sources such as plant waste, used cooking oil, or algae. It works almost like regular jet fuel but can cut carbon emissions by up to eighty percent. The best part is that most modern aircraft can already run on it without needing major modifications. Airlines and manufacturers like Boeing and Airbus have started experimenting with SAF, and some commercial flights have already used a mix of traditional fuel and SAF successfully. However, the production of SAF is still limited and expensive, which is why it hasn't become mainstream yet.

The next step toward greener skies is electric and hybrid aircraft. The idea might sound futuristic, but several prototypes already exist. Electric planes run on batteries and produce zero emissions during flight. They are currently suitable only for short trips because of battery weight and limited capacity, but progress is being made every year. Hybrid aircraft, which combine battery power and traditional engines, might soon become a common sight for regional travel. If developed fully, these aircraft could dramatically reduce emissions and noise pollution. Another exciting innovation is hydrogen-powered aviation.

***Hydrogen is one of the cleanest fuels known — when it burns, it produces only water vapor instead of carbon dioxide.***

> ***"IF IT CAN'T BE REDUCED, REUSED, REPAIRED, REBUILT, REFURBISHED, REFINISHED, RESOLD, RECYCLED, OR COMPOSTED, THEN IT SHOULD BE RESTRICTED, REDESIGNED, OR REMOVED FROM PRODUCTION."***
>
> ***— PETE SEEGER***

Still, going green in aviation won't happen overnight. The costs are high, the technology is complex, and global cooperation is required. But history shows that aviation has never stopped evolving. Every breakthrough, from the first jet engine to today's advanced aircraft, started as an impossible dream. The same determination that once made flight possible can now make sustainable flight a reality.

The effort to make planes green is not just about science or engineering — it's about responsibility. It's about protecting the planet while still connecting it. The skies of the future might look the same, but they can be cleaner, quieter, and kinder to the Earth.

## SO YES, PLANES CAN GO GREEN.

It will take time, innovation, and persistence, but step by step, the aviation world is preparing for a future where flying doesn't harm the planet — it helps us care for it.

Airbus has already revealed its ZEROe concept aircraft and aims to launch a hydrogen-powered plane by 2035. This technology could completely change the way we fly, but it also comes with challenges. Hydrogen must be stored at very low temperatures, and airports would need major upgrades to handle it safely. Despite these difficulties, hydrogen remains one of the most promising long-term solutions.

Apart from changing what fuels our aircraft, we can also make flying greener through smarter operations. Artificial intelligence and advanced data systems are helping airlines plan shorter, more efficient flight paths, reducing unnecessary fuel burn. Lighter materials, improved aerodynamics, and better engine designs are also helping aircraft become more fuel-efficient.

# WHEN THE RUNWAY WHISPERS TO THE PILOT

# *Let Me Guide!!*

BY PRAISY JOHN

**HAVE YOU EVER WONDERED WHY RUNWAYS HAVE RANDOM NUMBERS LIKE X09L, X02L, OR P27R? IS IT JUST A COINCIDENCE ?**

**NO!**

At first glance, they might look like secret codes, but in reality, they play a crucial role in the aviation industry. These numbers are actually a pilot's silent guide.

**TAXI SIDE BY SIDE...**

Have you ever thought about how parallel runways can make things tricky?
Two aircraft taxiing side by side must each maintain their designated runway.
That's where the letters L, R, and C come in — they indicate the runway's positions like Left, Right, or Center.

**COMPASS DEVIATION**

What happens during situations like crosswinds, loss of communication, or even engine failure?
**Do pilots panic? Never!**

They remain calm and focused — and here's why: the compass guides them to the runway.
The headings on the compass show the exact direction to your runway if you lose control or orientation.

Those so-called **"random numbers"** are no longer random at all — they're lifesaving guides written on asphalt.

## WHY NOT 1, 2, 3?...

Runway numbers aren't sequential: they reflect compass directions.

A runway numbered 01, 02, or 03 exists only if it points roughly 10°, 20°, or 30° on the compass. So when you see R27L or P09R, remember — these aren't coincidences or codes.
*They're the language of the skies, guiding every takeoff and landing.*

It's the Code Where Pilots Make Memories.Every runway holds a different story, a heartbeat — a moment of trust between the earth and the sky


# EXPERT INSIGHTS

*-CAPTAIN RAJAT AHUJA*

## THE CAPTAIN'S LOG: "CHARTING THE AVIATION JOURNEY"

Our institution recently had the opportunity to host a grooming session with aviation expert Captain Rajat Ahuja. During the session, Captain Ahuja shared his inspiring journey with us, from completing his training in Serbia to working with Indigo and eventually becoming a captain with Emirates 380, flying the wide-body aircraft.

In an engaging question and answer session, Captain Ahuja regaled us with stories from his experiences, offering valuable insights and motivation. His humility and willingness to share his knowledge left a lasting impression on us. Despite his impressive achievements, Captain Ahuja proved to be a very grounded and down-to-earth person, making his message even more relatable and impactful.

*Capt. Rajat hails from Jammu & Kashmir, India and is presently living in the United Arab Emirates. Certified commercial pilot with more than 12000 hours and 15+ years of continuous global flight experience on Airbus A380 & A320 aircrafts.*
*Crew Resource Management Facilitator - Aviation English Examiner - Certified Drone Operator*
*BSc Computer Sciences and MBA Human Resource Management.*
*Holder of Airline Transport Pilot License - Director General of Civil Aviation India, European Union Aviation Safety Agency, General Civil Aviation Authority UAE and Civil Aviation Directorate Serbia.*

AISWARYA ANTONY MA

# Early Retirement of the Airbus A380:

# THE SUPERJUMBO'S LEGACY

***THE A380 IS SEEN AS A "FLYING PALACE" AND A "WONDER OF MODERN ENGINEERING," WITH ITS PRODUCTION ENDING LESS THAN 15 YEARS AFTER ITS FIRST COMMERCIAL FLIGHT.***

The Airbus A380, often dubbed the *"Superjumbo,"* is arguably one of the most recognizable and ambitious commercial aircraft ever conceived.

As the world's largest passenger airliner, this double-deck, wide-body behemoth redefined air travel, offering unparalleled space and comfort, yet its journey was as short- lived as it was spectacular, with production concluding just 14 years after its maiden flight.

## A NEW STANDARD IN AVIATION

The A380 project was launched by Airbus in 2000 to challenge the long-standing dominance of the Boeing 747 in the long- haul, high-capacity market. It took its first flight in 2005 and entered commercial service with Singapore Airlines in October 2007.

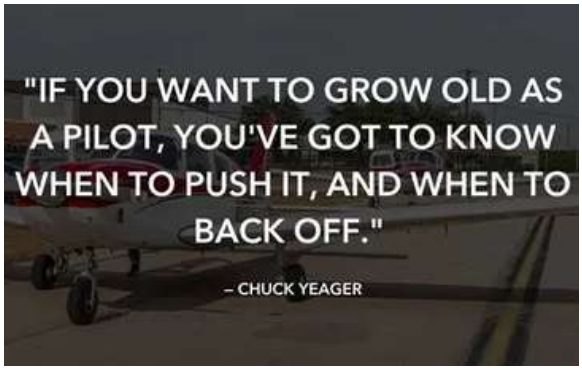
## KEY SPECIFICATIONS AND FEATURES:

**Size:** Measuring approximately 73 meters long with a wingspan of nearly 80 meters, it is the only full-length double-deck jet airliner.

**Capacity:** In a typical three-class configuration, it seats around 525 passengers, but its certified maximum capacity is an astonishing 853 in an all-economy layout.

**Comfort:** The aircraft is renowned for its spacious cabin, wider seats, and quiet operation, offering a superior passenger experience. Many airlines fitted the upper deck with luxurious features like onboard bars, shower suites (notably with Emirates), and private first-class suites.

**Range:** Powered by four turbofan engines (either Rolls-Royce Trent 900 or Engine Alliance GP7200), the A380 boasts a range of up to 14,800 kilometers (9,200 miles).




**The Downfall:** Economics and Shifting Tides Despite its technological marvels and passenger appeal, the A380 ultimately failed to secure enough sales to be profitable for Airbus, which ended production in 2021 after only 254 units were built. Its demise was a result of a fundamental shift in the commercial aviation market:

**High Operating Costs:** The A380 is a four-engine aircraft. Four engines mean significantly higher fuel consumption and maintenance costs compared to modern, more fuel-efficient twin-engine jets, such as the Boeing 787 and the Airbus A350. Hub-and-Spoke vs. Point-to-Point: The A380 was designed for the "hub-and-spoke" model, flying massive volumes of passengers between major international hubs. However, the industry pivoted towards "point-to-point" travel using smaller, long-range twinjets, allowing airlines to bypass major hubs and open up new, direct routes more profitably.

**4 Airport Accommodation:** The sheer size of the Superjumbo required significant and costly infrastructure upgrades at airports, including wider runways, taxiways, and specialized gate equipment, which limited the number of destinations it could serve.

## COVID-19 IMPACT

The global grounding of fleets and the collapse of long-haul travel during the pandemic accelerated retirement plans for several operators, including Air France, which fully removed the A380 from its fleet.

## THE A380 TODAY

A Resurgence for Some While production has ended, the A380 is far from extinct. Its primary and most enthusiastic operator, Emirates, has built its entire global network around the Superjumbo, operating over 100 aircraft. 5 Post-pandemic, several airlines—including Qantas, British Airways, Lufthansa, Singapore Airlines, and Qatar Airways— have reactivated their A380 fleets to meet unexpectedly high demand on key long-haul routes where its capacity is an advantage. Its capacity to maximize passenger throughput at slot-constrained airports (like London Heathrow or Dubai International) has given the Superjumbo a new lease on life, proving that while its time in production may be over, its legacy of luxurious, high-volume travel continues to soar.

***The A380 remains an unmistakable symbol of an ambitious era in aviation history.***

RIZA FATHIMA

"ONE FLIGHT

# 32 MINUTES, 520 LIVES

THE HEARTBREAKING STORY OF JAPAN AIRLINES FLIGHT 123

## A Routine Flight That Never Returned

August 12, 1985, was a day in world history that will never be forgotten — the crash of Japan Airlines Flight 123. The ordinary domestic flight out of Tokyo (Haneda) to Osaka turned into the worst single-aircraft accident in history, with the loss of 520 lives and just four survivors. Aside from the staggering loss of life, the tragedy rewrote the world's approach to aircraft maintenance, safety culture, and crisis management

## The Calm Before the Catastrophe.

Boeing 747SR (Short Range) Flight 123 took off from Tokyo at 6:12 p.m. carrying 509 passengers and 15 crew members. The plane had been in operation since 1974 and was among Japan Airlines' busiest workhorses, flying several short domestic routes daily. Barely twelve minutes after take-off, a violent explosion shook the aircraft. The aft pressure bulkhead — a structural wall at the rear of the cabin — ruptured due to a hidden defect.

> THE DECOMPRESSION TORE OFF PART OF THE VERTICAL STABILIZER (TAIL FIN) AND SEVERED ALL FOUR HYDRAULIC SYSTEMS, LEAVING THE AIRCRAFT WITHOUT ANY NORMAL FLIGHT CONTROLS. IN ONE TERRIFYING INSTANT, THE 747 BECAME NEARLY UNCONTROLLABLE.

## A Battle Against the Impossible

Captain Masami Takahama and his veteran crew battled to save the plane. With all control surfaces out of action, they tried the almost impossible — relying on engine-thrust changes alone to pitch and bank the aircraft. For the next 32 minutes, they struggled with the jet as it yawed, climbed, and dived in great, unstable cycles. Air traffic controllers attempted to steer them back to Tokyo, while the passengers alternated between moments of composure and unexpected plunges. Some of the passengers employed their last minutes to pen farewell letters — silent vigils later salvaged from the wreckage.


At 6:56 p.m., Flight 123 crashed into a mountainside in Gunma Prefecture, shedding wreckage into thick forest. The collision caused huge blazes, and rescue personnel only arrived at the site the following morning. Already, 520 people had perished

## The Truth Buried in the Metal

The official Japanese Aircraft Accident Investigation Commission (AAIC) investigation concluded that the disaster had been caused by a defective repair done seven years previously. In 1978, the aircraft had experienced a tailstrike during landing, which had resulted in damage to its rear pressure bulkhead

The repair was carried out by Boeing's engineers, but rather than a continuous splice plate, two individual plates were connected by a substandard row of rivets. Through thousands of pressurization cycles, tiny cracks developed in the weak joint until, finally, the structure collapsed on that ill-fated evening. This discovery shook the aviation world to its core. It was not pilot error, bad weather, or technical failure — it was a case of maintenance failure, hidden deep within the plane's past, that caused the world's worst single-aircraft disaster.

## A Nation in Mourning

The public in Japan was shocked. Funeral vigils were organized across the country as families grieved for their lost members. The accident also shook public confidence in Japan Airlines to the extent that the airline embarked on a full-scale organizational and cultural overhaul based on safety and responsibility. Globally, the crash became a classic case study in airplane structural strength and repair validation. The air transport community reacted with sweeping reforms: More stringent maintenance and inspection procedures for pressurized fuselage structures. Introduction of double-check verification systems in main repairs. More pilot training for complete hydraulic failure. Stronger focus on safety culture — making sure that every employee, from engineer to captain, took pride in the integrity of the aircraft

## How One Disaster Changed the Future of Flight

The tragedy of Japan Airlines Flight 123 is a harsh reminder that aviation safety is founded on matters of detail. In an industry where precision marks survival, even the slightest deviation of repair process can be dormant for many years before unleashing its fatal effect. It also reinforced the imperative need for maintenance supervision, manufacturer responsibility, and company openness. The heroic battle of the crew, although in vain, exemplified exceptional professionalism and has since been a standard by which pilot training for crisis management under impossible circumstances is measured


## Legacy Beyond the Mountains

Almost forty years on, the tragedy of Flight 123 still resonates throughout the airline world. Memorials exist on Mount Takamagahara, where every year families and officials gather to mourn those that lost their lives. Their memory lives not just in memory but in the enhanced safety measures that safeguard millions of passengers today. The sacrifices taught by Flight 123 recall that aviation advancement is inscribed in sacrifice — and that any safety improvement is a salute to those lost

NELIYA NIXON


# HOW REMOTE AIR TRAFFIC CONTROL IS RESHAPING AVIATION ?

*The familiar image of an air traffic controller (ATC) in a soaring glass tower, binoculars in hand, is quietly becoming a relic of the past.*

A silent revolution, powered by digital technology, is reshaping aviation safety and efficiency: the rise of Remote Air Traffic Control (RATC), also known as digital or virtual towers. This innovative approach is fundamentally decoupling the physical location of the controller from the airport, ushering in a new era of air traffic management.

## THE DIGITAL TOWER CONCEPT

RATC replaces the traditional visual control room with an advanced system of high-definition cameras, sensors, and data networks. These sensors provide a real-time, 360-degree panoramic view of the airport and surrounding airspace. This visual and operational data is then streamed to a centralized Remote Tower Center (RTC), often located many miles away. Inside the RTC, air traffic controllers manage operations by viewing these live, high-resolution video feeds displayed on large screens, supplemented by augmented reality overlays, object tracking, and flight data.

The result is a comprehensive digital picture that not only replicates the out-the-window view but can even enhance it, offering capabilities like infrared vision for poor weather or night operations and advanced zoom functionality. The core driver behind this transition is a powerful blend of cost-effectiveness and operational flexibility. For regional and smaller airports with low or seasonal traffic, building and maintaining a physical control tower is often financially unsustainable. RATC offers a viable alternative, allowing a single RTC to manage multiple airports sequentially or simultaneously, optimizing the deployment of valuable ATC personnel and reducing infrastructure costs significantly.

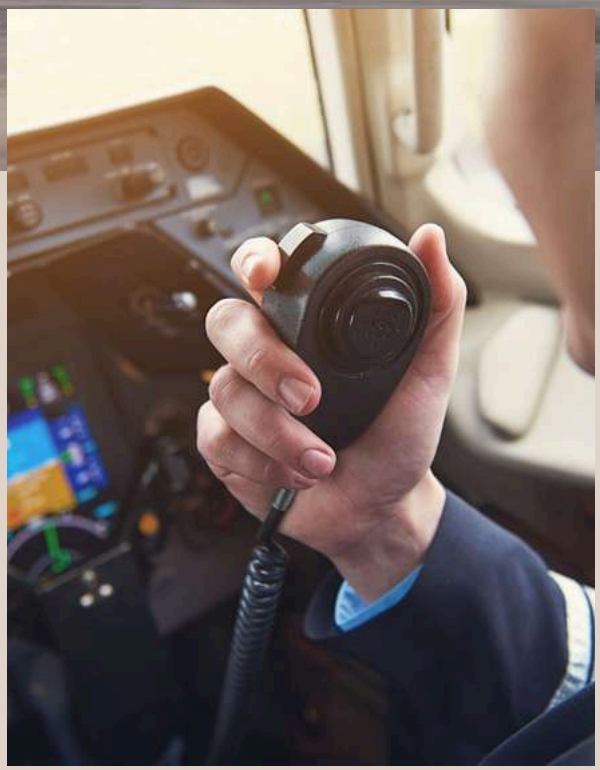
Furthermore, remote systems enhance safety by integrating automated alerts and advanced analytics, reducing the risk of human error, and providing enhanced situational awareness. The system also offers unprecedented resilience. Should a local disaster or technical issue render the airport's on-site infrastructure unusable, control can be maintained from the secure, central RTC, ensuring continuity of service. The implementation of the world's first operational remote tower in Örnsköldsvik, Sweden, in 2015 with control provided from Sundsvall, 100km away set the global standard for this transformative shift.

While the benefits are clear, the revolution is not without its challenges. Issues of cybersecurity are paramount, as RATC relies entirely on the integrity of its digital networks and data links. Regulators, including the FAA and EASA, continue to develop and refine the necessary certification standards to ensure the utmost level of safety. Moreover, air traffic controllers require specialized training to adapt to the new digital-centric workflow and environment.

Despite these hurdles, the momentum is undeniable. With countries like Norway establishing large-scale RTCs to control a dozen or more airports, remote air traffic control is rapidly progressing from a novel concept to a global standard. It promises to democratize air travel, strengthen regional connectivity, and ultimately create a more efficient, resilient, and smarter global aviation network. The silent revolution is here, and it's set to modernize the skies for decades to come.

# EFFECTIVE COMMUNICATION IN THE AVIATION

## A KEY TO SAFETY AND EFFICIENCY



***Communication is the backbone of the aviation industry, where clear and concise exchange of information can be a matter of life and death. From pilots and air traffic controllers to ground crew and maintenance personnel, effective communication is crucial for ensuring safety, efficiency, and smooth operations***

### The Importance of Communication in Aviation

In the aviation industry, communication plays a vital role in preventing accidents, reducing errors, and enhancing overall safety. Clear communication helps to,

**1. Prevent Misunderstandings:**

Clear communication helps to avoid misunderstandings that can lead to accidents or incidents.

***"Experience the joy of freshly baked pastries that warm the heart and awaken the senses. Every layer, flake, and filling tells a story of passion and craftsmanship. Let each bite take you on a journey of sweet satisfaction."***

**2. Ensure Safe Operations:**

Effective communication ensures that all stakeholders are aware of the situation, making it possible to take necessary actions to ensure safe operations.

**3. Enhance Efficiency:**

Good communication helps to streamline processes, reducing delays and increasing productivity.

## TYPES OF COMMUNICATION IN AVIATION

**1.Pilot-Controller Communication**:

This is a critical aspect of aviation communication, where pilots and air traffic controllers exchange information to ensure safe takeoffs, landings, and taxiing.

**2.Crew Resource Management (CRM):**
CRM is a type of communication that focuses on teamwork, decision-making, and problem-solving among flight crew members.

**3.Ground Crew Communication:**
Ground crew personnel communicate with each other and with pilots to ensure safe and efficient ground operations.


## EXAMPLE OF EFFECTIVE COMMUNICATION

Let's consider an example of pilot-controller communication:

**Scenario**: A pilot is approaching a runway for landing and needs to confirm the wind direction and speed.
**Effective Communication-**

***Pilot*:** "Tower, this is Flight 123. Can you confirm the wind direction and speed for Runway 27?"

***Air Traffic Controller***: "Flight 123, this is Tower. Wind is 270 degrees at 10 knots. Runway 27 is clear for landing.

**In this example,**
The pilot uses clear and concise language to request information.
The air traffic controller responds promptly and accurately, providing the necessary information.
Both parties use standardized phraseology, ensuring clarity and consistency.

## CHALLENGES IN AVIATION COMMUNICATION

**1.Language Barriers:**
Language differences can create communication challenges, particularly in international
aviation.

**2.Noise and Distractions:**
Noise and distractions can interfere with communication, making it difficult to hear or understand important information.

**3.Standardization:**
Standardization of communication protocols and procedures is essential to ensure clarity and consistency.

## BEST PRACTICES FOR EFFECTIVE COMMUNICATION IN AVIATION

**1.Use Clear and Concise Language:**
Avoid using jargon or complex terminology that may be unfamiliar to others.

2**.Use Standardized Phraseology:**
Use standardized phraseology and protocols to ensure clarity and consistency.

**3.Active Listening:**
Pay attention to the message being conveyed and respond accordingly.

*In conclusion, effective communication is critical to the safety and efficiency of the aviation industry. By understanding the importance of communication, types of communication, challenges, and best practices, aviation professionals can ensure that they are communicating effectively. This, in turn, will help to prevent accidents, reduce errors, and enhance overall safety and efficiency.*

ELAIN SELIX

# THE WORLD'S MOST UNIQUE AND FASCINATING AIRPORTS

## Saint Martin

### Princess Juliana International Airport

Located in the Caribbean, this airport is world-famous among aviation enthusiasts. What makes it special is its incredibly short runway, which begins just a few meters from Maho Beach. When large aircraft like Boeing 747s and Airbus A340s approach the runway, they fly astonishingly low over the beach — so close that beachgoers can feel the jet blast and hear the thunderous roar of the engines. This unique setup makes Princess Juliana a hotspot for photographers, plane spotters, and thrill seekers. It's a rare place where the excitement of aviation meets the beauty of tropical paradise.


## Scotland

### Barra Airport

This Scottish gem is the only airport in the world where scheduled flights land and take off from a beach. The runways are simply marked areas on the sand, and flight operations depend entirely on the tide schedule. When the tide comes in, the runway literally disappears under water! Located on the Isle of Barra in the Outer Hebrides, this small airport offers breathtaking views of the rugged coastline and crystal-clear waters. Flying into Barra is both a logistical challenge and a visual delight — a true reminder of how adaptable aviation can be.

## Lukla, Nepal

### Tenzing-Hillary Airport

Perched high in the Himalayas, Lukla Airport serves as the main gateway to Mount Everest. Named after legendary climbers Sir Edmund Hillary and Tenzing Norgay, this airport is considered one of the most dangerous in the world. Its runway is just 527 meters (1,729 feet) long and has a steep incline to help slow down landing aircraft. To make it more challenging, the airport sits on the edge of a mountain with a 1,000-foot drop at one end and a wall of rock at the other — leaving no room for error. Only highly experienced pilots are permitted to fly here, and each landing feels like a true adventure.

# Saba, Caribbean Netherlands

### *Princess Juliana International Airport*

Situated on the tiny Caribbean island of Saba, this airport holds the record for having the shortest commercial runway in the world — just 400 meters (1,312 feet) long! The strip is flanked by steep cliffs on both ends and mountains on either side, which means only small STOL (Short Takeoff and Landing) aircraft can operate here. Due to the difficulty of approach and limited space, only a handful of specially trained pilots are authorized to land. This makes every arrival and departure at Juancho E. Yrausquin an extraordinary test of skill and precision.

# Osaka, Japan

### *Kansai International Airport*

Kansai International is not just an airport — it's a masterpiece of modern engineering. Built entirely on an artificial island in Osaka Bay, it was designed to combat Japan's frequent earthquakes and typhoons. Engineers faced immense challenges during its construction, including the island slowly sinking under its own weight. Despite that, Kansai remains one of the most advanced airports in the world, with cutting-edge infrastructure and sustainable design. It symbolizes Japan's ability to blend innovation, technology, and resilience in the face of natural challenges.

## Conclusion

From beaches to mountains, and from artificial islands to cliffs, these airports represent the extremes of what aviation can achieve. They are not just transportation hubs — they are stories of courage, creativity, and precision. For pilots, each one offers a unique challenge. For travelers and enthusiasts, they remind us why aviation continues to inspire awe and excitement around the world.

***NASSIM***

In a world where aviation is constantly expanding and the demand for skilled pilots continues to rise, pilot training destinations have spread far beyond traditional hubs like the United States. Serbia, once known mainly for its strategic position in the Balkans, has quietly emerged as a promising aviation training destination in Europe.

# INSIDE SMATSA VRŠAC AND THE MODERN PATHWAY TO PILOT HOOD


## TRAINING FOR THE SKIES

The SMATSA Aviation Academy in Vršac—one of the oldest and most reputable training institutions in Eastern Europe—has begun attracting attention from aspiring cadets worldwide, including a growing number from India. The academy's strong adherence to EASA (European Union Aviation Safety Agency) standards, comprehensive training infrastructure, and affordable living conditions have positioned it as a serious contender for those seeking structured, professional flight education outside the U.S.

### A LEGACY OF AVIATION IN THE BALKANS

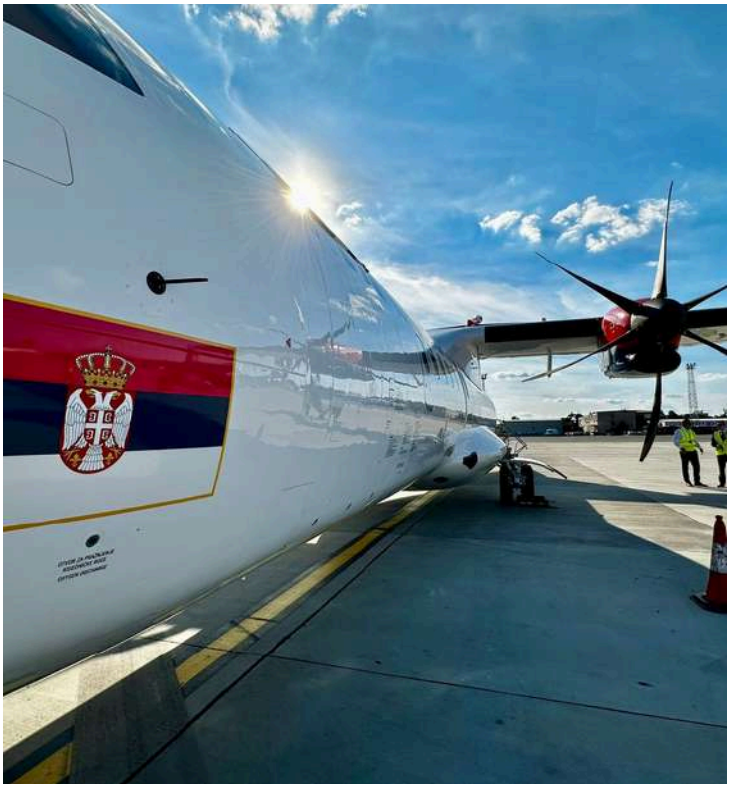
SMATSA, short for Serbia and Montenegro Air Traffic Services Agency, operates one of the most respected flight training schools in Europe.

Established in 1954, the Vršac Flight Training Center has trained thousands of pilots for both civil and commercial aviation, producing graduates who now fly for major carriers across Europe and beyond. Located about 80 kilometers northeast of Belgrade, the Vršac campus sits beside a large, dedicated airfield —one of the few in Europe solely reserved for pilot training. The facility includes multiple runways, modern classrooms, flight simulators, maintenance hangars, and a fleet of over 20 training aircraft, primarily Cessna 172s, Piper Senecas, and Tecnam aircraft

## EASA-STANDARD TRAINING: STRUCTURE AND STRENGTHS

SMATSA's programs adhere to EASA Part-FCL standards, ensuring that cadets graduate with licenses recognized across Europe and easily convertible to other aviation authorities. The Integrated ATPL (Airline Transport Pilot License) course typically lasts 18–24 months, blending theory with intensive flight practice. The training sequence includes: • Ground school modules covering meteorology, navigation, air law, and flight planning. • Simulator sessions on FNPT II and Boeing/Airbus-type procedural simulators. • Flight training phases progressing from visual flying to instrument and multi engine operations

One of SMATSA's standout advantages is its controlled training airspace—allowing cadets to fly with minimal congestion compared to major Western airports. This ensures smoother scheduling, better instructor attention, and consistent flying hours—key factors in completing training on time



## THE SERBIA ADVANTAGE: COST, CULTURE, AND CLIMATE

For international students, Serbia offers a unique combination of European training quality and affordability. The total cost of pilot training at SMATSA (including accommodation and local expenses) can range between €60,000 and €70,000, significantly lower than the $90,000 $130,000 often required for FAA-based training in the U.S. The cost of living in Serbia is among the lowest in Europe, with monthly living expenses for students averaging between €400 and €600. The city of Vršac itself is quiet, safe, and student friendly—ideal for focused study. Climatically, Serbia provides a balanced mix of clear and challenging weather, with four distinct seasons. Students gain exposure to a range of meteorological conditions, enhancing their adaptability and confidence in real-world flying

## COMPARING SERBIA WITH THE UNITED STATES:

Two Paths, One Sky The United States remains the traditional powerhouse for pilot training, particularly under FAA regulations. Its strengths lie in a vast network of flight schools, year-round flying weather (especially in states like Florida, Texas, and Arizona), and a robust aviation ecosystem that promotes high flight hours and advanced technology. However, Serbia's EASA-regulated framework offers its own distinct advantages: Factor Serbia (EASA - SMATSA) United States (FAA) License Recognition Widely accepted in Europe, transferable globally Recognized worldwide but often requires conversion for EASA/ICAO regions Training Cost €60,000–€70,000 $90,000–$130,000 Weather & Airspace Mixed conditions, less airspace congestion Ideal VFR weather, busier airspace Duration 18–24 months 14–18 months average Regulatory Style Structured, theoretical focus Practical, flexible approach Post-training Jobs Easier for EU citizens; others require conversion Broader CPT/OPT training options for foreign students In summary, while the U.S. offers faster progression, Serbia provides European-standard credentials with a balance of cost-effectiveness and thorough training quality

## LIFE AS A CADET IN VRŠAC

Student life at SMATSA is shaped by discipline, multicultural collaboration, and hands-on learning. The Academy houses cadets from across Europe, Asia, and the Middle East, creating a diverse and cooperative environment. Accommodation is provided either on-campus or through nearby housing options, both of which are affordable and well maintained. The town of Vršac, known for its vineyards and hills, provides a peaceful backdrop to student life, with easy access to Belgrade for city breaks or administrative needs. English is the primary medium of instruction, and all communication—both in ground school and flight training—is conducted in accordance with ICAO English proficiency standards. This makes adaptation smooth for Indian cadets

## FROM EASA TO DGCA: THE CONVERSION PATH FOR INDIAN CADETS

For Indian students training at SMATSA, completing the program leads to the EASA Commercial Pilot License (CPL). To fly in India, however, this must be converted to a DGCA-issued CPL (EPL). The conversion involves: 1. Passing DGCA theoretical exams in Air Regulation, Meteorology, Navigation, and Technical General (based on Indian syllabus). 2. Obtaining a DGCA Class 1 medical certificate from India. 3. Submitting EASA license verification documents and flight hour records to the DGCA. 4. Completing skill tests if required under DGCA oversight. While the process can take 3–6 months post-training, it is straightforward if documentation is properly maintained. Many flight schools, including SMATSA, assist international cadets by organizing standardized logbooks and EASA-approved examiner certifications to simplify future conversion.

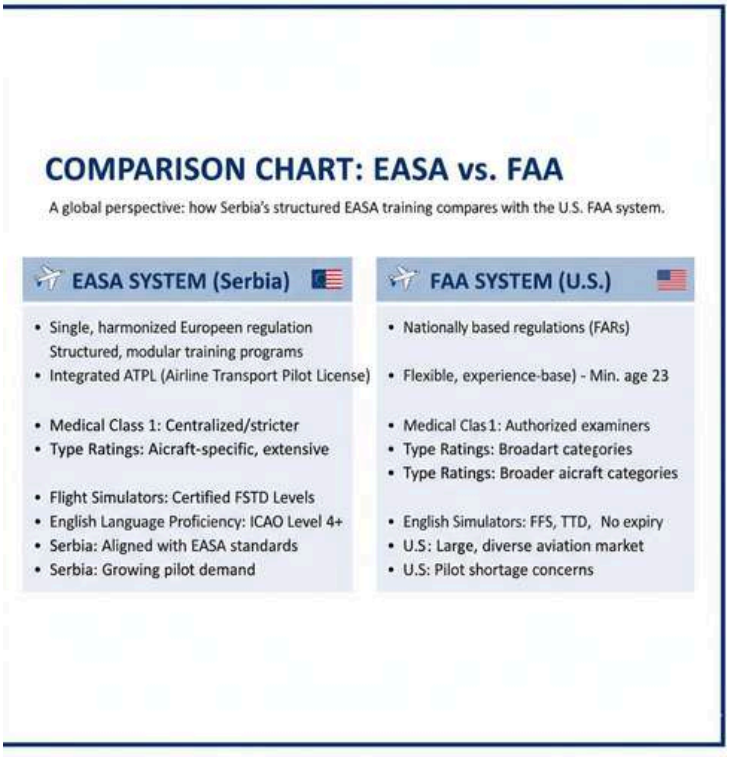
## PROS AND CONS: A BALANCED OVERVIEW

### PROS:

- Lower overall cost compared to Western Europe and the U.S.
- Strict EASA standards ensure international recognition.
- Controlled training airspace with consistent flying schedules.
- Safe, peaceful student environment. Exposure to diverse weather and air traffic conditions.

### CONS:

- Limited local job opportunities for non-EU students after training.
- Weather variability may reduce flying days during winter.
- Cultural adaptation may take time for students from tropical regions.
- Longer bureaucratic steps for DGCA conversion.




## FUTURE OPPORTUNITIES AND GLOBAL OUTLOOK

With the aviation industry recovering rapidly post-pandemic, pilot demand is projected to grow by 600,000 new pilots by 2040, according to Boeing's market forecast. European-trained cadets are increasingly sought after for their standardization, technical knowledge, and procedural discipline. For Indian students, an EASA license offers flexibility—it can be converted for use in India, the Middle East, or even Africa and parts of Asia-Pacific. Training in Serbia therefore opens multiple global career pathways, beyond national borders

## CONCLUSION:

*Serbia's Calm Skies, Strong Standards Training at SMATSA Vršac Aviation Academy represents more than just an alternative—it's a strategic step in global aviation education. The balance of cost, quality, and real-world exposure makes it a practical and respected route for aspiring commercial pilots. While the U.S. remains dominant in pilot production, Serbia's rise reflects a broader shift: aviation is no longer confined to specific regions. Today, the journey to the cockpit can begin from almost anywhere with clear skies and high standards—and Vršac, Serbia, offers both*

# EPAULETTE CEREMONY

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## "Wings of Excellence"


*We recently had the privilege of conducting the epaulette ceremony of our batch, Winglet, led by the esteemed* ***Captain Rajat Ahuja*** *. This milestone marks a significant achievement in their careers. We congratulate the batch on their achievement and look forward to their continued success, reaching new heights and setting new standards.*