



# THE ATC INSIGHTS



ISSUE 1

## From the Desk of President, ATCG (I)



At the very outset, I would like to wish all the fellow controllers in Airports Authority of India a very happy International Air Traffic Controllers' Day. October, the 20th is the day to celebrate the ATC profession an indispensable part of the society, carrying the sky skies on their shoulders. This day is celebrated to enhance the worldwide awareness about "The ATC profession".

Scope of celebration of ATC Day cannot be limited to one single day and can never be summed up. However, on this special day, I would like to congratulate each and every one of you who bring with them their uniqueness.

I am sure you will continue to make your valuable contributions to the profession. Sending you all my warm wishes through "The ATC Insights", a humble initiative of ATC Guild(I) to celebrate the special day.

As President of ATC Guild(I), I extend my heartfelt gratitude to all those who have contributed to this endeavour. Your dedication and passion have breathed life into this publication, and it is my hope that this magazine will serve as a source of inspiration and knowledge for years to come.

*Saif*  
(Saifullah)

## From the Desk of General Secretary, ATCG (I)



In the vast expanse of our skies, where metal birds traverse invisible highways, exists a silent guardian—the Air Traffic Controller (ATCO). As General Secretary of the Air Traffic Controllers Guild India, Alok Yadav, an ATCO, I would like to illuminate the enigmatic realm these skilled custodians navigate daily.

In the symphony of aviation, ATCOs orchestrate order, ensuring the safety of millions with a precision unnoticed by the unassuming public. Their cerebral acumen and split-second decision-making are the unsung melodies in the aviation opera. A mastery of radar screens, charts, and communication, coupled with an unwavering commitment to stress management, defines the essence of an ATCO.

Amidst the chaos of takeoffs and landings, ATCOs emerge as sentinels of serenity, grappling with the weight of responsibility that few comprehend. Their stoic demeanor conceals a mind that dances with algorithms and protocols, transforming potential chaos into a seamless choreography in the sky.

In the tapestry of innovation, ATCOs stand as pioneers. Embracing technology, they wield advancements like precision instruments, enhancing the safety and efficiency of our airspace. From AI-assisted decision support to advanced communication systems, the ATCO evolves, embodying the spirit of progress.

Yet, their diligence extends beyond the technical. Within the pages of this magazine, you'll find not only technical expositions but also the artistic expressions of those who safeguard our aerial frontiers. Poems, drawings, and insightful write-ups converge to present the multifaceted persona of the modern ATCO.

Let this collection be a testament to the fact that while the skies remain boundless, the dedication of ATCOs knows no bounds. It's a profession glorified not in the blare of trumpets but in the quiet hum of efficient operations and undisturbed flights.

As the General Secretary of the Air Traffic Controllers Guild India, I extend my heartfelt wishes to every ATCO on this International Day of the Air Traffic Controller. May your skies be clear, your screens uncluttered, and your endeavors always soar to new heights

**आलोक**  
(Alok Yadav)

## From the Editor's Desk



Dear Readers,

As we embark on a new journey with this issue of our esteemed ATC magazine, I find myself reflecting on the ever-evolving landscape of air traffic control. Each day, we witness the skies transform with advancements in technology, shifts in regulatory frameworks, and the steady march of progress.

It is a vocation that demands precision, vigilance, and an unwavering commitment to safety. Yet, it is also a field ripe with opportunities for innovation and growth.

Technological advancements continue to revolutionize our industry, from the implementation of advanced surveillance systems to the integration of artificial intelligence in decision-making processes. These innovations hold the promise of greater efficiency, enhanced safety margins, and a more seamless flow of air traffic. As professionals, it is our responsibility to embrace these changes and adapt to the evolving landscape.

Within these pages, you'll find a wealth of knowledge and expertise shared by fellow ATC professionals. From in-depth technical analyses to inspiring success stories to wonderful artwork, our magazine aims to be a beacon of learning and a source of inspiration for all.

As we navigate the challenges and opportunities that lie ahead, let us do so with a spirit of collaboration and a commitment to excellence. Together, we will continue to shape the future of air traffic control, ensuring that our skies remain the safest they can be.

As we look towards the future, let us remember that every decision we make, every vector we provide, and every moment of vigilance contributes to the safety and efficiency of our skies. Together, we hold the key to ensuring that aviation remains the marvel of human achievement it is today.

As you delve into the richness of technical insights and rejoice at the artistic talents within our ATC community, may this magazine be both an enlightening journey through our profession's depth and a visual feast for the senses.

In closing, I would like to extend my heartfelt gratitude to the incredible team behind the creation of this inaugural issue of our magazine .

I also want to express my deepest appreciation to our esteemed members for generously sharing their talents and expertise. Without your contributions, this magazine would not have been possible. Your creativity and passion have added a unique and vibrant dimension to these pages.

Happy reading!

**নিমিষা**  
**(Nimisha Kakoty)**

# Civil Aviation Training College Allahabad: Nurturing Skilled Air Traffic Controllers and CNS Officers

## Introduction

In the realm of aviation, precision, and expertise are paramount. Ensuring the safe and efficient movement of aircraft through the skies requires a cadre of highly trained professionals. Civil Aviation Training College (CATC) in Allahabad, India, stands as a beacon of excellence in the field of aviation training. This institution has earned a stellar reputation for its comprehensive courses, producing competent Air Traffic Controllers (ATCOs) and Communication, Navigation, and Surveillance (CNS) officers who play vital roles in ensuring the safety of the skies.

## A Hub of Excellence

CATC, established in 1953, has been a pioneer in aviation training in India. It is one of the premier institutions under the AIRPORTS AUTHORITY OF INDIA and is recognized internationally for its high standards of training. The college is strategically located in Allahabad, with a sprawling campus that offers state-of-the-art facilities to its students.

## Courses Offered

CATC offers a wide range of courses that cater to the needs of aspiring ATCOs and CNS officers. These courses are designed to impart theoretical knowledge, practical skills, and real-world experience. Some of the key courses offered include:

**Air Traffic Controller Training:** CATC provides comprehensive training programs for individuals aspiring to become Air Traffic Controllers. These programs cover air traffic management, radar control, and procedural control techniques, ensuring that graduates are well-prepared for the dynamic and challenging role of an ATCO.

**CNS Officer Training:** Communication, Navigation, and Surveillance officers are essential for maintaining the seamless flow of information within the aviation system. CATC's courses equip students with the technical knowledge and expertise required to manage critical CNS equipment and systems.

## International Collaboration

One of CATC's unique features is its collaboration with international partners. The institution not only caters to Indian candidates but also extends its expertise to students from other countries. Notably, CATC has been instrumental in training ATCOs from Afghanistan and Bangladesh, fostering cooperation and exchange of knowledge in the field of civil aviation.

## State-of-the-Art Facilities

CATC's commitment to excellence is reflected in its world-class facilities. The college boasts modern simulators, well-equipped classrooms, and a dedicated air traffic control tower simulator that provides students with a realistic training experience. Additionally, the institution's faculty comprises experienced professionals who ensure that students receive the best possible guidance.

## Career Opportunities

Graduates of CATC find themselves well-positioned for a rewarding career in the aviation industry. Air Traffic Controllers and CNS officers are in high demand worldwide, making this an attractive career path. Many CATC alumni have gone on to hold critical positions in India and around the globe, contributing to the safety and efficiency of air travel.

## **Conclusion**

Civil Aviation Training College Allahabad has earned its place as a premier institution for the training of Air Traffic Controllers and CNS officers. Its commitment to excellence, international collaboration, and state-of-the-art facilities make it a hub of aviation expertise. As the aviation industry continues to evolve, institutions like CATC play a pivotal role in ensuring that the skies remain safe for all travelers, both domestically and internationally.

## **CARO**

The Civil Aviation Research Organisation, a facility with advanced simulators being established in Hyderabad, will become fully operational by the end of this year.

The Civil Aviation Research Organisation, a facility with advanced simulators being established in Hyderabad, will become fully operational by the end of this year and will have, a civil aviation ministry official said. It will have labs to analyze cyber security threats, and facilitate aviation data management.

CARO, which is being established on a 20-acre plot within the Begumpet airport at a cost of ₹402.13 crore, will offer solutions in key areas in the civilian aviation sector in India. “The construction of the CARO building is under progress and in the final phase of construction.

CARO aims to promote in-house and collaborative research to cater AAI’s needs through establishment of a world-class research infrastructure with advanced simulators and laboratory facilities. CARO will develop indigenous technologies, promote and disseminate R&D activities, encourage creativity and innovation through human resource measures, and provide decision support using data analytical tools and cost- benefit analysis.

“It also aims to provide a research platform for private and public stakeholders to cater to the needs of global aviation research through collaboration with government and private organization, co-develop with international organizations, facilitate industry institution tie-ups, foster a vibrant research and development environment to attract top talent and provide resources for start-ups and innovations to carry out research.

Its foundation stone was laid by Suresh Prabhu, the then civil aviation minister, in July 2018.

# RECENT EVENTS OF REC-NR





**Picture Description (Top to Bottom)**

1. Inauguration of Fourth Runway at Indira Gandhi International Airport, New Delhi
2. Delhi Controller's Premier League
3. Women's Day and Kavi Sammelen and Holi Milan
4. Plantation on Earth Day

# MILESTONES OF REC-NER

## STATUS REPORT

PRABHAKAR PRABHAT  
PRESIDENT OF NER CHAPTER, ATCG(I)

### Keypoints

North East India, known as The Land of the Rising Sun showcases a rich heritage of unique cultures and customs of the Seven Sisters. Strategically positioned such that our airspace shares international boundaries with Bhutan, China, Myanmar and Bangladesh.

ATC Guild Guwahati has spread wings to become a full-fledged REC-NER consisting of 11 stations. REC-NER is the one of its kind council of ATC Guild(I) having all its 11 airports as tenure stations. REC-NER is always committed to support its membership owing to the dynamic situations/hardships that may arise due to its geographical location or the diverse heterogenous demographical structure. The council aims to support its membership from arrival gate to departure gate of their period in NER!

### Issues taken up by REC-NER

- Accommodation of NER stations result achieved as CHRM 12/2023 for all employees of AAI.
- Digitization of FIC Related works.
- Establishment of mess facility at RHQ, Guwahati and ATS Complex, Guwahati.
- Proposal for mess facility of transit hostel in Guwahati.
- Issues related to stress mitigation facilities for VEGT ATCOs and other NER stations.
- Issues related to regularization of DHRA in NER.
- Delay in placement of JEs posted in NER.
- Implementation of 5 shift roster in Guwahati
- Doctor with primary medical facility at AAI colony.
- Controllers rating allowance issue on being transferred to NER from Mumbai.
- Issue regarding restoration of ATC manpower from non-core functions from NER Airports.
- Establishment of creche facility at Guwahati and provided support and guidance for establishing creche at IGI, Delhi.

Some of the projects have been completed while some are still ongoing. We are committed to achieve them too in the time ahead.

### Social Responsibilities driven Projects:

- Cleaning drive, Awareness against plastic pollution, Covid 19 vaccination drive with establishment of Isolation room for AAI employee and also, mask distribution in collaboration with Kalyanmayee during Covid 19 pandemic, Plantation drive, Blood Donation Camp, Health awareness camp, Aviation awareness among tribal area primary school and distribution of school stationery and recreational kit among them.

This would not have been possible without the support of my team- CMK Paswan, Pramesh Kumar, M. Ashok Singh, Lisa Das, Avanish Maurya, Rafi Abu Tarab, Rahul Jha, Abhishek Jha, Umakanta Borah.



343 likes

aaiofficial After performing their duties at office #AAI officers & employees volunteered & distributed Food & relief material in villages like Amunigaon, Goraimari, Chaygaon & Palasbari area. Due to devastating floods people took shelter at relief camps in these areas in Assam. #AAICares





### Picture Description (Top Row to Bottom Row)

1. Food and relief material distribution among Floods victims.
2. Covid 19 vaccination drive.
3. Aviation awareness among underprivileged students and school kit distribution.
4. Plantation drive and Blood Donation Camp

## SHIFTING PARADIGMS: WOMEN IN ATC – A SPECTRUM OF EMPOWERMENT

In the dynamic world of air traffic control (ATC), the role of women has been steadily evolving, reflecting broader societal shifts towards inclusivity and gender empowerment. As the All-India Women's Representative of ATC Guild (India), it is my privilege to shed light on the strides we are making towards a more balanced and inclusive workforce within the Airports Authority of India, the only Air Navigation Service Provider of India.

### Breaking Barriers: The Journey of Women in ATC

Traditionally, the ATC field has been predominantly male-dominated. However, over the past decade, we have witnessed a significant surge in the number of women joining this critical profession. Currently, they are more than 0.5k strong female ATCO community in India. They have not just entered the workforce; they are excelling, proving their mettle in a high-stakes environment that demands precision, teamwork, and quick decision-making.

It's heartening to witness the strides we've made in embracing diversity and inclusivity within the ATC community. The increasing representation of women is a testament to our commitment to a more inclusive airspace. This diversity not only enriches our profession but also strengthens our collective capabilities.

It is a matter of immense pride that out of total 2300 women workforce in AAI, 1k women workforce belong to ANS fraternity which can be further sub divided as ATCO and ATSEP in the ratio of 60:40.

### Empowering Women: Key to Success

The empowerment of women in ATC is not just a matter of equity, but also a strategic move towards enhancing the efficiency and effectiveness of our air navigation services. Studies have shown that diverse teams, including those with gender balance, tend to perform better in complex tasks that require a range of perspectives and problem-solving approaches.

Moreover, women bring unique strengths to the ATC profession. Their natural aptitude for multitasking, strong communication skills, and attention to detail are invaluable assets in an environment where split-second decisions can mean the difference between safety and disaster.

## **Creating a Supportive Ecosystem**

To foster an environment of inclusivity and empowerment, ATC Guild (India) has been a pioneer in taking proactive measures. The General Council Meeting held in Bengaluru 2022 marked a significant milestone in the pursuit of gender equality where female representation was mandated by amending the guild constitution. This year, on Women's Day, ATC Guild (India) released the first issue of its multilingual e-magazine named "aabhaa-The Invigorating Radiance" celebrating womanhood, the first of its kind in AAI. These initiatives aim to provide a platform for sharing experiences, honing skills, and building a supportive community where diverse perspectives and experiences are not only welcomed but actively sought after.

## **Championing Gender Inclusivity: A Collective Effort**

While significant progress has been made, there is still work to be done. Achieving true gender inclusivity requires the active participation of all stakeholders, from workforce and management to policymakers and the wider aviation community. The reluctance to recognize and address the unique aspects of each gender is the initial hurdle that policymakers must overcome. This mindset perpetuates a system where the needs of one gender are overshadowed or dismissed, ultimately resulting in a disproportionate burden on that group. Social welfare schemes and policies for the employees should be designed with a nuanced understanding of the societal constructs that have historically assigned specific roles to men and women.

## **My Desk Report**

**Mission and Vision:** Our mission is to amplify all women's voices through discussion, education, and advocacy to create a more equitable world.

Our vision is one of intersectional inclusivity and gender equity. As advocates for justice, we will engage, inspire, and transform our community, and community leaders as we create an interdisciplinary and vibrant environment.

**Ongoing Initiatives:** Representing female ATCO fraternity in review meetings of the Chairman, AAI

Women uniform related issues

Medical related issues of female ATCOs

I am committed to reaching out to every female officer within the ATC fraternity and widen my radius to every women employee of my organisation and beyond, ensuring that I address their individual and collective issues, ultimately fostering a more inclusive and supportive work environment for all.

Together, we are not merely pushing boundaries, but redefining them. The sky, indeed, is not the limit—it is the launchpad for our collective aspirations.

**Nimisha Kakoty**  
**AM(ATM), CHQ**

# ARTICLE ON ATC AT IGI AIRPORT

## **The Unsung Heroes Behind Safe Skies !!**

Indira Gandhi International Airport (IGI) in Delhi, India, stands as a bustling hub of activity, serving millions of passengers from around the world. Amidst the organized chaos on the tarmac and in the skies, there exists a dedicated team of Air Traffic Controllers (ATCOs) who work tirelessly, day and night, to ensure the safe and efficient movement of aircraft. In this article, we delve into the remarkable world of ATCOs at IGI Airport, highlighting their demanding roles, immense stress, and unwavering commitment to safety.

## **Simultaneous Operation on Four Runways**

IGI Airport is unique in its operational scale, featuring four active runways that allow for simultaneous takeoffs and landings. This configuration is a testament to the airport's strategic importance and the need for rapid aircraft movement in and out of the nation's capital. Handling over 1,500 Aircraft Movements Per Day!! The sheer volume of air traffic at IGI Airport is staggering. On an average day, more than 1,500 aircraft movements occur, making it one of the busiest airports in the world. This relentless flow of arrivals and departures necessitates precision and coordination on an unprecedented scale.

## **The Highly Stressful and Challenging Task**

The job of an ATCO at IGI Airport is nothing short of demanding. The controllers are responsible for ensuring safe separation between aircraft, managing runway operations, and coordinating arrivals and departures. They must be constantly alert, making split-second decisions that impact the safety of thousands of passengers.

## **Round-the-Clock Commitment**

IGI Airport operates 24/7, 365 days a year. This means that ATCOs must be available to work during holidays, late nights, and even in adverse weather conditions. Their unwavering commitment to their duties often means sacrificing personal celebrations, family time, and the ability to observe festivals and holidays like most people.

## **Sacrificing Health and Opportunities**

The relentless nature of the job takes a toll on the health and well-being of ATCOs. Irregular working hours, high-stress levels, and the constant pressure to perform at their best can lead to physical and mental fatigue. Moreover, the demands of their profession often limit their opportunities to lead a "normal" life outside of work.

## **The Unsung Heroes**

Despite the challenges they face, ATCOs at IGI Airport are the unsung heroes of aviation. Their dedication to safety ensures that millions of passengers arrive at their destinations without incident. Their vigilance during peak traffic hours, unpredictable weather, and emergencies is the backbone of the aviation industry.

*"The Air Traffic Controllers at IGI Airport, Delhi, perform a Herculean task each day, managing an extraordinary number of aircraft movements and sacrificing their personal lives to keep the skies safe. Their role in aviation safety is indispensable, and it's crucial that we acknowledge and appreciate their unwavering commitment to their duty, which ensures that passengers can fly with confidence in the bustling skies over the Indian capital".*

## Era of Artificial Intelligence: Air Traffic Controllers Perspective

Puneet Gupta  
Airport Director  
LBSI Airport  
Varanasi



On the eve of International Day of Air Traffic Controllers, I, Puneet Gupta, convey my best wishes and gratitude to all the Air Traffic Controllers across the globe for providing safe travel to our home and destinations. We are on the verge of new millennium, the Digital Era. In this digital era, the Aviation industry is witnessing the maximum technological growth. Most significant of them, being the Artificial Intelligence (AI). Being an Air Traffic Controller myself, I wish to provide an overview of AI and its capabilities for the benefit of other fellow controllers.

Artificial intelligence (AI) is a technology that helps computers think and learn like humans. It can understand, analyse, and make decisions based on data. AI is used in various applications like virtual assistants, recommendation systems, and self-driving cars. AI is also rapidly transforming the aviation industry, with the potential to improve efficiency, safety, and capacity. AI can be used in a number of ways in ATC systems, such as to predict and manage traffic flow, develop and optimize flight plans, detect and avoid conflicts between aircraft, and provide decision support tools to ATCOs, new training programs etc.

The introduction of digital technology in aviation has led to capturing of Gigabytes of significant data. Such mammoth data sources provide the nurturing environment to multiple AI models for crunching this data to develop prediction models with acceptable accuracy. The improvement in accuracy will enable these AI models to slowly integrate in existing system to support crucial decision-making process such as ATM Automation, Air Traffic Flow Management system, Airspace Planning systems etc.

The current ATC is mostly manual where ATCOs are primarily tasked with the decision making process with the help of tools to ensure safety, orderly and efficient handling of the airspace and maintain safety between the aircraft. However, we all are aware of the Next Generation technology in Aviation propagated by ICAO through a planning document in the form of Global Air Navigation Plan (GANP). The GANP is a planning document developed to support the implementation of newer technology in a phased manner for all States. Before GANP, each States stood differently on implementation of the Air Navigation technology. There was incoherence in the adoption and lot of challenges was faced by Aviation Community while transiting across different States border. Intended benefits of adopting newer and better technology was not possible due to uneven Navigation structure in nearby States.

ICAO attempted to address the issues through the planned document GANP (Global), regional Air Navigation Plan and then the National Air Navigation Plan (NANP). While the present GANP does not have any specific module on AI, it provides the environment leading the integration of AI enabled services subsequently. We may look at the various such enablers implemented through GANP.

With the help of GANP, the newer era of Aviation looks forward to significant technological and digital improvements in the field of Communication, Navigation and Surveillance. In Communication, the present Voice Communication over VHF is expected to be replaced by digital communication such as CPDLC etc. The Digital Communication is much faster and reliable method of communicating information between Systems, both ground to ground and ground to air. The digital communication enables systems to process digitally coded messages such as trajectories, flight plan and other aviation related messages through high speed networks and is an enabler of service based communication protocol such as SWIM. This digital backbone paves the way for AI Enabled services using models to predict delays, conflicts and congestion for improving routine services such as optimum flight path, better airspace utilisation etc. Handling of contingency situation may continue to be handled best manually due to the unpredictability and uniqueness.

Next, the digitalisation of Navigation services such as use GPS and Satellite based Navigation will shift the load from ground based system to a wide area Navigational infrastructure for the sake of economics and safety. This will also pave the way for dynamic trajectory calculation based on predicted aviation updates such as weather degradation and airspace usage plans, congestion, conflicts etc. Looking at the present prediction capabilities, AI may be roped in to project the most optimum flight path taking into consideration the predicted conflict areas, weather changes and other significant factors. Many parameters of flight planning, which are currently, unplanned, such as traffic congestion etc could be pre modelled into the flight planning algorithm to make it more realistic and better planned.

Lastly, the Surveillance system is also expected to advance significantly in this digital era. Already, the old MSSR and PSR are giving way to the economical ADS-B Receiver which is more accurate, reliable and resilient system. The underlying digital communication in the newer Surveillance system provides scope for AI enabled solutions such as use of prediction for suggesting Controller for next course of action for better airspace utilisation. There could be AI prediction models capable of suggesting best radar vector to achieve the desired separation in surveillance areas as a decision support tool to ATCOs.

In other usage of AI, there could be AI based prediction model which could provide, the probability of loss of separation in different scenarios by analysing the traffic handling strategy of Air Traffic Controller within given accuracy parameters. This may be used for identifying new ATC Trainees problem areas while providing for new training techniques.

While AI has the potential to benefit ATCOs and the air traffic control system, it also poses some challenges. For example, ATCOs will need to develop new skills and adapt to new ways of working in order to effectively use AI systems. Another challenge is the need to ensure that AI systems are safe and reliable. AI systems are complex and can be difficult to understand and debug. This makes it important to have robust safety processes in place to ensure that AI systems cannot cause accidents.

AI is still in its early stages of development in the aviation industry, but it has the potential to transform the way we fly. AI is a powerful technology that has the potential to revolutionize ATC. However, it is important to use AI in a way that benefits ATCOs and the air traffic control system as a whole. This means investing in training for ATCOs on AI systems, developing robust safety processes for AI systems, and working with ATCOs to design and implement AI systems.

It's time to better understand the AI in the perspective of ATC so that our next generation of ATCOs are better prepared to embrace the new technology with open hands.

## Air Traffic Management - A Perspective

India handles more than 6,500 flights\* daily, facilitating the transportation of nearly a million\* passengers both within the country and to international destinations. Behind this impressive statistic, two pivotal factors emerge as the driving forces: advanced technology that powers air traffic management, and, more notably, the unwavering passion that propels the thousands of Air Traffic Controllers (ATCOs) in India.

As a fraternity and profession, it is only lately that Air Traffic Control has gained recognition among the common public courtesy the vast influence of social media and easy access to information. ATC, as a profession, is also gaining traction among the youth of the country which is evident from the thousands of applicants for the job seen during every recruitment exercise. The need to augment and enhance the provision of Air Traffic Services in a safe, orderly and expeditious manner stems not only from the burgeoning air traffic in the country, but is also influenced by greater public awareness and regulatory vigil.

Air Traffic Management in India has been taking rapid strides in technology through various initiatives. The introduction of space-based ADS-B to provide surveillance over high seas open a door to new prospects that ensure higher levels of safety and efficiency. The flexible use of airspace enables more efficient collaboration between civil and military users and service providers to ensure that airspace – a limited resource – is shared optimally. In its endeavour to utilize the technical abilities of modern aircraft, Indian ATM has evolved in its flight procedure design with performance-based navigation routes and approach procedures.

An indigenously developed airport collaborative decision-making system, acknowledged by the international community as world-class, has been set up at busy airports to optimize departure flow and reduce carbon footprints. Integration of surveillance sensors into the automation system enables uninterrupted coverage of aircraft and has proved to enhance the efficiency of flight operations by issuing shorter routings and expeditious climb/descent.

Telecommunications infrastructure has been put in place to ensure continuity and availability of surveillance data and two-way communication between aircraft and ATC. A major revamp of the entire Indian airspace, which aims to minimise ATC conflicts through route restructuring and using “Best-Equipped Best-Served” policy, is on the anvil. Efforts are on to enhance the capacity of major airports through the construction of ground infrastructure and development of air traffic procedures.

The other pivotal factor driving Air Traffic Management is the undying passion for the profession exhibited by air traffic controllers across the country. Although the picture is far from rosy, ATCOs have been rising to the occasion in all circumstances, be it the uninterrupted provision of air traffic services during the pandemic or grappling with new regulations, ever-increasing traffic demands and existing technology slowly getting obsolete.

ATM infrastructure enhancements like new integrated automation systems, advanced surface movement guidance control systems, air traffic flow management systems to regulate the flow of traffic along routes, reduced longitudinal separation in oceanic airspace using space-based ADS-B need to pick up pace.

In the case of the Indian ATCO, the stick mostly outruns the carrot as controllers rise above the procedures and infrastructure, or the lack thereof. Resilience in adversity is the most

outstanding trait of the air traffic controller. With the introduction of the license regime, ATCOs are now subject to far greater scrutiny, be it in professional skills or their medical standards. Most, if not all, regulations are intended for the greater good but are not always accompanied by means and measures for implementation. Manpower planning is now of utmost significance and this means laying the greatest emphasis on training institutions.

Introduction of surveillance course at one additional ATSTO is a major step which will help tide over the training backlog, but it will need a bigger revamp to ensure that ATCOs are expeditiously trained and deployed at stations to start their journey of becoming a rated controller. Stress management is often wrongly relegated to the background because, as a country, our threshold for stress is very high. The recently implemented watch duty time limitations aims to provide rest and relief to ATCOs and all efforts shall be made to ensure the bolstering of manpower that will help in its widespread and consistent implementation.

The aeronautical information services through the dissemination of NOTAMs – a technology which is in use worldwide since 1947 – will need to move to graphical and easily adaptable data making it convenient for the flight crew to obtain the desired information and flight plan accordingly. Training in supplementary functions such as flight procedure design, airspace, management, aeronautical information management, aerodrome safeguarding procedures, safety management systems etc. should be localized so that a larger number of younger ATCOs are trained and groomed for the future. The Civil Aviation Research Organization being set up at Hyderabad is expected to pave the way for exploration of research topics and advancements in Air Navigation Services. There is a growing opportunity to develop new models and design enhancements to support air traffic and airspace management functions, such as flight planning, trajectory prediction and optimisation, sector capacity/demand balancing, airspace and procedure design, and environmental impact mitigation.

In summary, Indian Air Traffic Management is making significant strides towards future-proofing the provision of air traffic services. Technological and regulatory changes must be complemented by effective implementation measures to support the dedicated efforts of air traffic controllers in their unwavering commitment to maintaining the safety of the skies.

**Sudhir Menon**  
**DGM (ATM)**  
**RHQ-SR**

## **WAYPOINT NET-ZERO**

**(STOP TRANSMITTING MAY DAY, ATC INDIA HANDLING CLIMATE EMERGENCY)**  
**CH SREE RAMA MURTHY, AGM (ATC), CSMIA, MUMBAI**

Climate change is now the most significant challenge of our generation. To protect the future of our planet, everyone in the aviation and aerospace sector including regulators, National Aviation Authorities (NAA) must contribute to effectively reducing carbon emissions. Fighting climate change and protecting the environment is at the top of public priorities but this provides a challenge for the transport sector, which is a major contributor to Green House Gas (GHG) emissions. Aviation has set itself an ambitious target of reaching Net-Zero carbon emissions by 2050. The airframe and engine technologies required to meet this target still need to be developed, so for the next decade the main improvements will have to come from the way



the current fleets are operated. Air Traffic Management (ATM) will play a key role in this journey towards an ambitious goal. Through deploying new technology, operational and infrastructure efficiencies and improvements in fleet utilization a flight a passenger takes today will, on average produce 54.3% less CO<sub>2</sub> than the same flight in 1990. Aviation and aerospace connect people, cultures and businesses like no other form of transport. Aviation directly contributes to the Sustainable Development Goals (SDGs), and plays an integral role in improving and transforming people's lives around the world. Global aviation produces around 3 percent of all human-induced carbon dioxide emissions and 12% of CO<sub>2</sub> emissions from all transport sources. If aviation were a country, it would be Sixth-largest emitter, falling between Russia and Japan.

Aviation main environmental impact stems from the noise, heat, ultra-fine particles and the gasses emitted by the aircraft combustion engines, all directly contributing to our ecosystem and climate change. Around 50% of all CO<sub>2</sub> emissions in the atmosphere dissipate after 50 years, 30% remain for a few centuries but the final 20% remain for many thousands of years, so it is not surprising that CO<sub>2</sub> has become the focus for aviation environmental mitigation. The Intergovernmental Panel on Climate Change (IPCC) considers that aviation emissions contribute to 4.9% of human-cause climate change. The demand for improved safety, efficiency and capacity due to rapid expansion of global air transport and the growing concern for environmental sustainability issues pose significant challenges for the development of future Air Traffic Management and Avionics systems. Key Performance Improvement areas identified in the Global Air Navigation Capacity and Efficiency plan by the ICAO are Airport operations, Efficient flight path planning and execution, Optimum capacity and flexible flights, Global interoperable systems and data. While many eco-friendly technological solutions are contemplated for addressing the long term challenges associated with the steady growth of the aviation sector, novel ATM and avionics systems can provide an immediate effect on alleviating the environmental impacts of aviation.

### **Conference of Parties (COP 26): Aviation Transport**

During the COP26 Transport day, the "Delivering Jet Zero" discussion concludes that an emission reduction of up to 8% can be achieved by improving the efficiency of aviation operations. During every phase of aircraft operation, there are opportunities to reduce fuel burn and consequently emissions. There are several policy proposals that regulators can introduce including making military air space flexible use and allowing more User Preferred Routes. Shortening flight routes is the real contributor to reducing fuel. To this end AAI has developed a network of direct air routes over Indian air space. It has created around 70 optimized route segments and is working on the roll-out of an even more direct network. However, there is further room for improvement in the way those fuel – efficient trajectories can be planned, to allow airspace users to load less fuel, which will lessen take-off weight and reduce fuel burn and emissions even further.

### **Saving time, Costs and fuel - In the skies**

One area where efficiency in Aircraft operations can be greatly improved is real-time air-ground collaboration. Today the information flow between an aircraft approaching an airport, the operational control center, the ramp, and gate and maintenance control is not optimal. The real challenge with congestion was not on the ground but in the wider airspace. This is

where Next Generation ATC services such as Trajectory based Operations (TBO)/ Intent Based Operations (IBO) provide more optimal way of managing air traffic and preventing congestion. The industry has long discussed aircraft operating techniques like Continuous Descent Operations (CDO), which enable the operation of more optimal flight paths by reducing engine power, thus reducing noise and fuel consumption and, therefore CO2 and costs. The overall technology landscape that will allow these new ATM applications is under development. In the not too distant future, solutions such as LDACS- L band Digital Aeronautical Communication Systems will enable the aircraft to send ATC trajectory based real-time data to aid better decision making around aircraft flows and movement. The positive impact on fuel and carbon emissions will be instant. We have technology to help industry reach its sustainable targets , reduce its carbon foot print with more efficient flight paths , more accurate fuel management , faster turnaround and better air space management.

### **Trajectory Optimization**

The trajectory flown by each aircraft dictates a number of operational aspects and environmental impacts associated with the mission. In the ATM perspective, trajectory optimization is the identification of most suitable Four Dimensional Trajectory (4DT) from origin to destination based on constraints, user preferences, and metrological and traffic information. A number of limitations are associate with the conventional flight planning approach, which consists of a preliminary lateral airway choice based on the shortest path encompassing favorable winds aloft and a vertical planning , subsequently performed to obtain the ideal cruise level based on the aircraft category and route length. From the operational perspective, the main disadvantages of the classical approach are due to the result of its offline nature (i.e. information are formulated before flight operations, with very limited real-time online inputs). Since the offline flight plans are submitted well ahead of the scheduled flight time, unforeseen weather and air traffic scenarios can progressively compromise its validity and optimality. Another major limitation o conventional flight planning is due to the very narrow set of optimality criteria. The advancement in ATM and Avionics systems provide four dimensional Trajectory (4DT) optimization and Negotiation/validation functionalities interoperable with future ATM systems. The Next-generation FMS (NG-FMS) has the functional capability to generate cost-effective green trajectory profiles satisfying both operational constraints and the environmental objectives.

### **Optimizing airspace with Technology**

ATM innovations can give ANSPs a headstart on driving operational efficiencies while lowering greenhouse gas emissions. Today's ATM relies mostly on inefficient legacy systems, as reflected by the increasingly crowded skies. Excess fuel use associated with indirect and inefficient flight paths and congestion in the air will add further strain to the bottom line as well as wider environmental ramifications. SITA and Skysoft are working together to enable a greater collaboration between ANSPs and airlines , making operational improvements and reducing carbon emissions using the latest and leading technologies. Optiflight provides pilots with route recommendation by leveraging machine learning on historical data and 4D weather forecasts so that pilots request their optimized trajectories to ATC. The integration between Optiflight and the Skysoft ATM system will enable the display of recommendations on ATC displays so controllers can analyze direct route recommendations, integrate them with trajectory management tools and check that safety is maintained. This enhancement on real time data sharing will facilitate ATC decision making that greatly contributes industry's carbon net-zero journey. Optiflight recommendations such as shortcuts and more optimal descend approaches, would have higher chance of being

granted. This would improve the collaboration between the cockpit and ATC enabling more efficient airspace, reducing fuel burn, costs and carbon emissions. Integrating Artificial Intelligence based solutions to support a seamless integration of airline and ANSP constraints, contributes to the next newest generation of ATM systems that reduce both carbon and non carbon emissions.

### **Way Forward-collaboration is the key**

Achieving sustainable net-zero aviation cannot be just down to innovators, manufacturers and operators. All parts of the entire air transport ecosystem, including National Aviation Authorities must come together to deliver sustainable air connectivity and eradicate aviation's dependency on fossil fuels. To achieve the goal the guardians of skies (ATCOs) needs to **re-dedicate themselves to the cause of climate change, Aviation Carbon Emissions reduction and protection of environment and do best to observe rules, regulations and procedures and develop attitudes and habits conducive for achieving these objectives.** ATCOs must fully realize that aircraft delays, inappropriate utilization of ATM technologies and ATC procedures are a drain on the national economy and may lead to carbon emissions, noise and general degradation of environment. **To achieve** the target, ATCOs have to pay judicious attention to the carbon footprint of Aviation sector to minimize the adverse environmental effects of civil aviation activities by the efficient and effective use of

- A-CDM for improved airport operations to reduce taxi time, reduce fuel burn, carbon emissions and lower aircraft engine run time, through collaborative procedures, comprehensive planning and proactive actions.
- A-SMGCS to enhance safety and efficiency of surface operations to reduce aircraft carbon emissions.
- Air traffic flow management (ATFM) which is an enabler of air traffic management (ATM) efficiency and effectiveness that contributes to the safety, environmental sustainability, efficiency and cost-effectiveness of an ATM system.
- PBN terminal procedures, CDO and CCO to obtain Environmental gains. CDOs feature optimized profile descents that allow aircraft to descend from the cruise to the final approach to the airport at minimum thrust settings to save fuel and decreasing airport/aircraft noise levels, benefitting local communities.
- Continuous climb operations (CCO) in conjunction with PBN to optimize throughput, improve flexibility, and enable fuel- efficient departure profiles to reach and maintain its optimum flight level without interruption in order to improve fuel efficiency and minimize carbon emissions as large portion of fuel burn occurs during the climb phase.
- AMAN/DMAN to improve traffic flow through sequencing to reduce holding and low level vectoring to minimize positive environmental effect in terms of, GHG, noise and fuel usage.
- RNP and GLS approaches to enhance reliability and predictability of approaches for optimized airport accessibility to reduce fuel burn and noise.
- PBN procedures such as closer and consistent route spacing, curved approaches, parallel offsets and the reduction of holding area size for improved operations through optimized ATS routing such as User preferred profile to reduce fuel burn and carbon emissions.

ATCOs should use all the opportunities available to them to do everything possible for the reduction of Aviation carbon emissions for protection of environment in the interest of self, family, community, organization and the Nation at large.

## **Artificial Intelligence & Stress**

With a wireless earbud, a smart mobile and a smartwatch on the wrist-calculating our BP, Steps that we walked, Heart Rate calculator and monitoring our sleep etc. The technology doesn't end here-our curiosity and excitement about the AI-Artificial Intelligence that is knocking the door to take us to a different artificial future. With growing technology our needs are changing accordingly-everything is just a click away from us. With the advancement of the technology, we are running towards the facilities and comfort life but it's taking us slowly away from our healthy life. To cop-up with these growing technologies and the competition in every field we are working beyond our limits. With growing nervousness, pressure and stress is causing harm to our mental health accordingly. As we grow up-our social responsibilities grows, our career and professional network expand and have to keep a pace to cop up with new technologies and their updated versions as a result the expectations of society and from self becomes too high.

As per WHO-Stress can be defined as a state of worry or mental tension caused by a difficult situation. Stress is a natural human response that prompts us to address challenges and threats in our lives. Everyone experiences stress to some degree. The way we respond to stress, however, makes a big difference to our overall well-being.

Stress affects both the mind and the body. A little bit of stress is good and can help us perform daily activities. Too much stress can cause physical and mental health problems. Learning how to cope with stress can help us feel less overwhelmed and support our mental and physical well-being.

As we go to gym to build our physical body similarly, we should keep our mind strong ! Meditation, games, relaxation, eat well and sleep well and always having the positive attitude is few of mental strengths. If you are in stress do not be shy to ask for help-Remember that asking for help doesn't make any one small but it means one is not willing to give up, asking for help means one have a good friend/family/colleague to bank on for the support. Always control your anxiety, emotions and learn to accept challenges. Also learn to fail, learn to cry and accept it-work on it and fail again but don't give up then only one will be ahead of time and stress free.

**Saifullah**  
**Senior Manager, CHQ**

## You may not know me!!



You may not know me!!  
I control Aircraft on ground, sky and over sea!!  
I make aircraft depart, and land!!  
How we do it is difficult to understand!!  
You sit in flight and reach your home!!  
We send you Moscow and Rome!!  
We take care of Aircraft from gate to gate!!  
But we forget what is date!!  
We work round the clock!!  
Handling Aircrafts and their Squawk!!

Whenever Aircraft under Distress!!  
We Help them and solve all the mess!!  
We are guardians of Sky!!  
We never tell lie!!  
We make aircraft climb High and High!!

We sit in Tall tower.  
Working in odd hour..  
Taking care of Aircraft in all Weather!!  
Tower Approach and Area Together!!  
We Love Runway, Aircrafts and their rolling  
We provide safe, expeditious and Efficient Controlling!!

We Work under thousand of rules..  
With the help of automation Tools..  
We are Happy and Cool..

We are Air traffic controllers, we Love our Job..  
Happy International Day of Air traffic Controllers

**- Pawan Kumar Singh  
Mgr(ATM), IGI Airport**

## "Whispers in the sky: A Dance of Control"

In the realm where sky meets technology's hold,  
Air traffic controllers weave a tale untold.  
A symphony of blips on radar screens,  
Guiding flights through vast, unseen scenes.

From high above, in a tower's embrace,  
They navigate space with skill and grace.  
Area control, a vigilant gaze,  
Mapping the skies in a complex maze.

On screens, the dance of lights takes flight,  
A choreography in the canvas of night.  
Commanding sectors with practiced finesse,

They orchestrate order in the air's vastness.  
Whispers through frequencies, a ballet's call,  
In the hands of controllers, destinies enthrall.

Through sectors and waypoints, a seamless flow,  
A dance of vectors in a cosmic tableau.

In unseen corridors where jet streams soar,  
Controllers reign over the aerial floor.  
A mastery of space, an art to behold,  
In the silent saga of air traffic controlled.

**Visakh V  
AM(ATM) Trivandrum**

## हवा में इक परिंदा .. !!!

हवा में इक परिंदा जिसकी डोर किसी के हाथ में है  
दिखता है उड़ता अकेला, अरे ! मगर कोई साथ में है  
इंजन चलाए , कमर कसे वो उड़ने को बेताब है  
हवाई नियंत्रक की रात का तो वो ही महताब है  
उसे बस उस एक आवाज़ का इन्तज़ार है  
जो देती उसके पंखों को उड़ान बारंबार है  
अनुमति मिलते ही देखो उसे, क्या दौड़ लगाता है  
कभी देर से घर आता है कभी पूरी रात जगाता है  
मुश्किल हालात में ये एक दूसरे की हिम्मत है  
तभी तो इनकी बातचीत की इतनी कीमत है  
एक दूसरे के साथी हैं ये साथ अटूट विश्वास का है  
सुरक्षा से करेंगे काम ,सवाल लोगों की आस का है  
एक हवाई नियंत्रक और एक हवाई जहाज़ है  
दोनों के समन्वय पे तो आसमाँ को भी नाज़ है

- हवाई यातायात नियंत्रक की कलम से आशिमा प्रबंधक ATC

## The Diary of an Air Traffic Controller

*10th Jan 2018 1845 IST*

As all of you know I am an Air Traffic Controller and generally found in ATC Tower or Area Control Centre (ACC). But on this fateful day I was neither in ATC tower nor in ACC, but was performing afternoon shift duty as Airport Terminal Manager, looking after flight operations, passenger facilities and VIP movements at Terminal 2 (T2) of Lucknow Airport. It was a normal routine shift which had started at 1300 IST and would end at 1900 IST. A bit tired, I was sipping my coffee and looked at the watch which showed 1845 IST, that is 15 minutes more to end my shift. So, I started writing the main briefing in my log book prior to charge handover to the night duty airport manager. But I didn't know that next 15 minutes or rather say 30 minutes were going to be very stressful for me. Each and every moment of next 30 minutes is as fresh in my memory like the incident has just occurred yesterday.

The intercom rang, I saw the phone's display, number was 2311 that is ATC Tower. I immediately picked the phone to be informed that flight UK778 (Vistara) from Kolkata to Delhi, from 20 miles east of Lucknow is diverting to Lucknow airport due to Medical Emergency (possible heart attack to a passenger on board) and will be landing in 10 min and parking on Bay no 8.

I immediately called Doctor at Airport and asked him to come to my Terminal Manager's office immediately informing him about the Medical Emergency. Also I immediately instructed driver to go and get the Ambulift ready. Ambulift/Medical lift is specifically designed lift, mounted on a vehicle, so as to ensure, the most safe and efficient serviceability of disabled passengers on wheelchairs and stretchers, to and from the aircraft. Also there was no vehicle available at that

time, to go to Apron (the airside where aircrafts are parked) and ATC operational jeep was not available in MT, so I requested Equipment Room to send their jeep to Terminal so that myself and Doctor can proceed to Apron.

Few minutes later Doctor arrived in my office but jeep has still not arrived. I also asked Doctor to also inform their Hospital ambulance to reach Airport as soon as possible. As already 5 to 6 minutes has passed, I decided we will walk through the Apron to Bay no 8. Myself along with doctor entered Apron via staff gate (near Aerobridge Bay no 14) . Now the distance from Bay no 14 to Bay no 8 is 500 meters. I inquired ATC about position of aircraft, to be told that the aircraft was on final approach to runway ,that meant 2 or 3 more minutes to land. Now myself along with Doctor were almost running on Apron to reach Bay no 8.

The aircraft was just parking when we reached. It was really cold out there, so we were not sweating due to running but were breaking heavily. Few moments later I inquired about ambulift and driver informed me that ambulift was not ready as it requires at least 15 to 20 minutes to build the pressure. Alas! Now how to deplane the sick passenger. As we were short of time, so with the help of

Vistara staff, the nearby lying Indigo ramp was taken and attached to the aircraft.

The Doctor boarded the aircraft, checked the passenger and reported that he is critical and should be shifted to hospital immediately. Within no time the passenger and his family were deboarded and the passenger was shifted to AAI (Airports Authority of India) ambulance. During the shifting process for the first time I saw him on the stretcher. He was an old man, a bit healthy, probably in his 50's , clad in a half sleeves shirt and a formal trousers. A lady was accompanying him, probably his wife and we reached Gate no 3, which connects the city side and air side.

The doctor enquired and as the hospital's ambulance has not yet arrived. Being a daily commuter on Kanpur road, I knew that this is the peak traffic time and it's very difficult for ambulance to reach Airport in a few minutes. I consulted with doctor that how many minutes we can wait and he advised that the situation was very critical and even if the hospital's ambulance arrive, it will take at least 3 to 4 minutes to shift the passenger from one ambulance to another. Also shifting from one ambulance to another will require removal of oxygen supply for short period and it may prove to be lethal.

I saw his wife's face, it was blank and pale, and I could feel her emotions. Although she didn't say a single word, she knew what was happening. It would be a very difficult situation for any lady, seeing her husband in such a condition. I had two options now, either to wait for the hospitals ambulance and risk the patient life or send Airport s ambulance to the city hospital. As many of you will now be thinking, what's the problem in sending the Airports ambulance to the city hospital. Let's try to understand this. Every airport has a defined category of rescue and Fire fighting services, which depends on the overall length of the longest aeroplane (critical aircraft) used at the airport and its maximum fuselage width. Now depending on the critical aircraft, the fire station inside airport have requisite number of Crash Fire Tenders( CFT), ambulance and fire fighting manpower. Now technically, when I am sending airport's ambulance outside, no. of ambulance reduces by 1 and at least two fire manpower too. Now this may reduce the category of rescue and fire fighting of the airport. If any untoward accident happens at the airport, then I will be solely held responsible for this flaw and it may instigate inquiry against me.

Each passing minute or rather say second was critical and endangering passengers' life. I was in a dilemma. There are many situations in life where our mind and heart part ways. I was facing

such situation where my mind was in favour to wait for the hospital's ambulance and not risk my job by sending airport's ambulance outside but my heart was in favour of sending airport's ambulance outside so that we don't risk the life of that person.

Approximately 8 second have passed in this dilemma. Now the inner instinct comes in picture and heart took over my mind. Next 2 seconds, dilemma has vanished and I decided to send airport's ambulance outside. My heart said, first I need to save the life of this person, all other things can be managed later and I instructed airport's ambulance to proceed to hospital immediately, and coordinated with ATC and Fire In charge for the same. At the first instance driver was reluctant and was asking for a requisition slip (written permission to proceed outside airport) but due to my aggression, assurance and coordination he immediately proceeded towards the Hospital. At that moment even if somebody would have said, how will aircrafts land, if category reduces, my decision was firm and crystal clear, let the aircrafts hold over Lucknow or divert the aircrafts. Such was my aggression at that moment.

Next day (11th Jan 2018) when I came for duty, I took the contact number of the passenger from the Vistara counter. I tried to contact them on mobile phone to assure them of all the possible help in Medical College (as they have been shifted to KGMC and I have personal references in KGMC) and also assured them to contact me for any possible help in Hospital till their other family members fly and reach Lucknow.

Finally, a few days later that person has recovered and his family departed from Lucknow to Delhi. They were overwhelmed by the response they got at Lucknow Airport. After reaching their home, his daughter sent an email to Chairman AAI regarding this incident, appreciating airport terminal manager's prompt decision and action in saving his father's life. In this way, she got this recorded via email to chairman that "Good people do exist in this world" .

Finally after few queries from chairman's office, after a month later, a letter of appreciation was issued from the office of Member ( Operations). I thought that this story has ended now. But I was wrong....

Approx 8 months later

My phone rang, a female voice came from the other side " Am I talking to Mr Rahul Shukla". I said " Yes, but I didn't recognize you" . Then she told me that she is Priyanka (name changed), the daughter of the same passenger Mr Dasgupta. Then I remembered and asked her how is Mr Dasgupta. After a silence of few seconds she told that he suffered a major attack and expired few days ago. I felt so sorry. Then she went ahead to say that she has not called me to give this news, but to thank me once again, as she believed that I have given her father, 8 months of more life . Nobody in my entire lifespan has said such thing ever to me. My throat blocked, my words were seized as I couldn't say anything. More than 30 seconds of silence prevailed, then the phone got disconnected from that side. A couple of tears rolled down from my eyes....

Rahul Shukla  
Manager (ATC)  
Nagpur Airport

## आसमान में जादू .. //

पर फैलाये आसमान में, जहाज अनेकों उड़ते हैं,  
सोचा कभी, है जादू कैसा- आपस में ना भिड़ते हैं ??  
इस संभावित खतरे की गुत्थी- कौन भला सुलझाता है?  
कौन दिशा, किस राह है जाना- कौन उन्हें बतलाता है?  
खुद नेपथ्य में रहकर हर पल- उनको मार्ग दिखाता है,  
सुरक्षा सहित सेवा कर अर्पण, अपना धर्म निभाता है...  
घनघोर बरसती मेघा हो- या आसमान में लाली हो,  
हो रविवार का दिन चाहें, चाहें होली-ईद-दिवाली हो,  
आपातकाल की बेला हो, या turbulence के झटकें हों,  
या खराब मौसम के चलते जहाज मार्ग से भटकें हों,  
यहाँ हर क्षण है रोमांच नया- हर दिन दूजे से हट कर है,  
पर सजग वो प्रहरी नीलगगन का- हर दिन सेवा में तत्पर है...  
दुर्गम निर्णय, एकाग्र निरीक्षण- और धीरज का परिचायक है,  
वो वायु यातायात नियंत्रक- इस व्योम का सच्चा नायक है...!

*- हवाई यातायात नियंत्रक की कलम से भव्य जैन*

## Guardians of the crowded air

In the tower, above the ground,  
A silent symphony can be found.  
The air traffic controllers, poised and  
aware,  
Guiding planes through the vast, endless  
air.  
With steady hands and watchful eyes,  
They navigate the bustling skies.  
Through radar and radio, they  
communicate,  
Ensuring each flight arrives at the right  
gate.  
They orchestrate the dance of machines,  
With precision and expertise, behind the  
scenes.  
Their voices calm, yet filled with authority,  
Directing planes with proven clarity.  
In a world of chaos up in the sky,  
They bring order, as time passes by.

Coordinating arrivals and departures,  
Masters of smooth air traffic maneuvers.  
Lights blink and flash on their control  
board,  
As they manage chaos without discord.  
Their knowledge vast, their training precise,  
They ensure safety, at any price.  
Though their job may oftentimes go  
unnoticed,  
Their efforts keep the skies calm and  
focused.  
Air traffic controllers, unsung heroes they  
be,  
Guiding planes through the boundless sea.  
So let us acknowledge, with grateful hearts,  
These guardians of the crowded air arts.  
For they work tirelessly, day and night,  
To keep our flights steady and right.

**Sunil Kumar**  
**Mgr (ATM)**  
**Indore**

## Untold story of brilliant ATCO

She hurriedly squeezed herself on the narrow spiral stairs leading to the control tower. It was Bhogi day Jan 14 in mid 1990s. And tower gave a very foggy look. Visibility was not that low, still there was shallow fog, which would stay on for another hour or so, till the sun emerges. It was 7.20am and the night shift duty officers Tower and SMC were briefing the relievers. Then the speaker gave a loud information from the area intercom. Eta Indair440, 0230, diverting from Hyderabad due low visibility at Hyderabad. Soon the information regarding was passed to fire station and Apron control for the allocation of bay.

Metar gave visibility 3000m in fog was transmitted through ATIS. Tower intercom telephone rang, and heavy voice of WSO

Sir, was at the other end.

Hurriedly she said Good morning, Sir alerted, Indair440 is diverting to Chennai, has flap retrieving problem and is unable to climb, is maintaining F150 and most important was the Aircraft has 30min flying time and 35 min fuel.

She had been relatively new to this field of being an ATCO, but could understand the distress phase of the aircraft they were to handle. The wx in Hyderabad was poor, visibility 500m and Indair 440 made two attempts and lowpass to land there, was unable to land. In the process, the aircrafts flaps could not be retrieved and it ultimately lost the aerodynamic shape and could not fly higher, and was losing a lot of fuel. A flight normally carries extra fuel for holding and to proceed to the alternate aerodrome. This aircraft had enough fuel but due to friction in low altitude was losing a lot of fuel. It was a airbus 300 aircraft and there were over 240 passengers. Situation was growing grim. All the agencies were alerted and were ready.

Now again WSO came on line and called her to the Area control. Area Controller and approach Radar controller were vigilant to guide the aircraft to safety.

WSO briefed, now with this speed and fuel shortage, aircraft may not be able to make it to Madras. Panic was spread all over, all were praying in their minds. The flight was using W20 route. Between Hyderabad and Madras only a small VFR aerodrome Tirupati existed. She was advised to call Tirupati and make all the arrangements in case of aircraft to proceed there. Runway at Tirupati was only 4500ft, not suitable for a heavy aircraft like Airbus 300. There was only traffic hand available at Tirupati as it was beyond watch hours. She advised him to alert the fire station and keep the runway clear. The Tirupati Metar and runway conditions were passed to the aircraft.

Time was 0215 and aircraft reported in ACC frequency 134.25, May day Mayday May day 5 min fuel. and soon Everyone was looking into the Radar scope and watching the aircraft, soon the blip vanished.

During the emergency all other aircraft were advised to stop transmitting Mayday. Now SAR plans had to be initiated. The location of last sighting the blip was plotted in the map and it was nearer to Tirupati, but not close to airport.

There was an East west 741 aircraft from Delhi to Madras following the route. she reported, on 121.5 emergency frequency, Indair440 was transmitting that she has landed in a paddy field around 50nm north of Tirupati and there was no casualty. It was a great relief. Coast guard helicopter was arranged and a few officers joined to proceed to the site.

Tirupati incharge was advised to inform local administration and Police and evacuate the passengers and bring them to safety. After the tight morning shift, with some satisfaction she went to her quarters. Next days newspaper covered the front page news of Indair440 crash.

The brave captain, was on the front page. Captain was suspended pending enquiry of the accident. The aircraft had elite passengers, Tollywood stars, Chiranjeevi and Vijayashanti on board.

The ATCOs at Chennai and Hyderabad were also subject to enquiry . The accident was due to technical issue but the captain's decision to divert to Chennai was found as a misjudgement and the Atco at Hyderabad was appreciated for her presence of mind as her most appropriate question, 'with this problem and fuel can you make it to Madras'.

- Shanti R

## The Vital Importance of Stress Management for Air Traffic Controllers



### Introduction

Air traffic controllers play a pivotal role in ensuring the safety and efficiency of the aviation industry. Their responsibilities include coordinating the movement of aircraft, managing take-offs and landings, and ensuring that flights occur without incident. Given the gravity of their responsibilities, it is crucial for air traffic controllers to manage stress effectively. In this article, we will explore the importance of stress management for air traffic controllers and how it impacts their performance and the safety of air travel.

### High-Stress Environment

Air traffic controllers work in one of the most stressful environments in any profession. The nature of their job demands constant attention, quick decision-making, and the ability to handle multiple tasks simultaneously. They often face high-pressure situations, especially during adverse weather conditions or emergencies. Stress management is vital to help them cope with the intense demands of their profession.

### Safety First

The primary focus of air traffic controllers is safety. Their decisions directly affect the lives of thousands of people daily. When stress levels are high, the risk of errors increases. Effective stress management ensures that controllers can maintain a clear, focused mindset, reducing the likelihood of mistakes that could lead to accidents or incidents.

### Decision-Making

Quick and accurate decision-making is at the core of air traffic control. Stress can impair cognitive function and hinder decision-making abilities. Controllers who can effectively manage stress are better equipped to make the right choices, even in high-pressure scenarios.

### Work-Life Balance

Air traffic controllers often work irregular hours, including overnight shifts and weekends. This can disrupt their natural sleep patterns and lead to fatigue, which, when combined with stress, can be particularly detrimental. Stress management techniques can help them achieve a better work-life balance, which is crucial for their well-being.

## Communication

Effective communication is vital in air traffic control. Controllers must communicate clearly with pilots and colleagues to ensure safe operations. High stress levels can lead to miscommunication and misunderstandings, potentially jeopardizing flight safety. Stress management training can enhance their communication skills, reducing the risk of errors.

## Burnout Prevention

Air traffic control can be a mentally and emotionally draining profession. Prolonged exposure to high stress without effective coping mechanisms can lead to burnout. Stress management strategies help controllers to prevent burnout and sustain their careers in the long term.

## Health and Well-Being

Stress can take a toll on physical and mental health. Chronic stress is associated with a range of health issues, including heart problems, anxiety, and depression. Prioritizing stress management is essential to safeguard the well-being of air traffic controllers.

## Conclusion

The importance of stress management for air traffic controllers cannot be overstated. Their role in ensuring the safety of air travel demands that they maintain their mental and emotional well-being. Effective stress management not only enhances their own lives but also contributes to the safety and efficiency of the aviation industry as a whole. It is imperative for aviation authorities and organizations to provide resources and support for air traffic controllers to help them manage stress effectively and continue to excel in their critical roles.

**Vikas Kumar**  
AM, IGI Airport

## वायु यातायात नियंत्रण अधिकारी(जहाज नियंत्रक)

वायु यातायात नियंत्रण अधिकारी (जहाज नियंत्रक) या गगन प्रहरी आज हम बात करेंगे उस विशिष्ट प्रतिभा संपन्न अधिकारियों का, जो आम जनता के संपर्क में तो नहीं आते हैं, लेकिन जनता की सेवा चौबीसों घंटे बिना रुके, बिना थके करते रहते हैं, उस विशिष्ट प्रतिभा संपन्न अधिकारी को वायु यातायात नियंत्रण अधिकारी या संक्षेप में नियंत्रक (CONTROLLER) कहते हैं. ये सभी भारत सरकार के अधीन कार्यरत ग्रुप 'ए' या ग्रुप 'बी' अधिकारी होते हैं. नियंत्रक (CONTROLLER) एक बन्द कमरे में बैठकर बिना जहाज को देखे या रडार पर जहाज को देखकर जहाज को निर्देशित कर नियंत्रित करता है. एक नियंत्रक जहाज के पायलट को जिस भाषा में निर्देश देता है, वह अन्तराष्ट्रीय नागरिक विमानन संगठन द्वारा दी गयी अंग्रेजी का ही एक रूप होता है, जिसे फ्रैजिओलोजी कहते हैं. फ्रैजिओलोजी से विचलन स्वीकार नहीं है. एक नियंत्रक (CONTROLLER) जब चैनल पर बैठता है तो उस दौरान कोई भी जहाज उसकी पैनी निगाह से बच के नहीं निकल सकता. उस समय उसकी केन्द्रण का आलम ये होता है कि उसे पता भी नहीं चलता कि उसके अगल-बगल क्या हो रहा है, जैसाकि योग करते समय होता है. किसी भी एअरपोर्ट पर एक सर्वाधिक ऊँची बिल्डिंग, जिसे टावर कहते हैं, ही वायु यातायात नियंत्रण अधिकारियों का ऑफिस होता है. इस बिल्डिंग में एअरपोर्ट चलाने के लिए प्रशासनिक ऑफिस, वित्त विभाग की ऑफिस, विभिन्न सहयोगी अभियंता विभाग की ऑफिस, मौसम विभाग इत्यादि भी होते हैं. यहाँ हम बात करेंगे-वायु यातायात नियंत्रण सेवाओं और उसके अधिकारियों के कार्य-प्र

प्रणाली के बारे में. जहाँ तक आम लोगों की बात करें तो कोई इन्हें जहाज को पार्किंग में लगाने वाला समझता है, तो कोई ट्रैफिक पुलिस की तरह समझता है तो कोई कम्प्यूटर पर काम करने वाला, तो कोई ऑपरेटर समझता है, जबकि वास्तविकता एकदम अलग है. वायु यातायात नियंत्रण अधिकारी बन्द कमरे में बैठा हुआ, एक ऐसा अधिकारी है, जो जहाज के इंजन को स्टार्ट करने से लेकर उड़ान भरने के बाद अपने गंतव्य पहुँचने तक पायलट को निर्देश देता है, जिससे कि जहाज सुरक्षित अपने गंतव्य स्थान तक पहुँच सके. वायु यातायात नियंत्रण अधिकारी की आज्ञा के बिना जहाज का पायलट ना तो इंजन स्टार्ट कर सकता है, ना उड़ सकता है और ना तो उतर सकता है, बशर्ते कोई क्रिटिकल इमरजेंसी ना हो. जहाज का पायलट बिना वायु यातायात नियंत्रण अधिकारी की आज्ञा के अपने मार्ग से तनिक भी विचलित नहीं हो सकता. इस प्रकार हम कह सकते हैं कि वायु यातायात नियंत्रण अधिकारी जहाज को सुरक्षित उड़ने से लेकर उतरने तक में अति महत्वपूर्ण भूमिका निभाता है. वायु यातायात नियंत्रण अधिकारी एक ऐसा अधिकारी है, जो गर्मी, वर्षा, शीत में दिन-रात चौबीसों घंटे अपनी सेवा में लगा रहता है. शायद यह पहली सेवा होगी जिसमें वायु यातायात नियंत्रण अधिकारी को अपने सभी ज्ञानेन्द्रियों को चौबीसों घंटे खुला रखकर जमीन से लेकर आकाश तक जहाज को निर्देशित कर उसकी सुरक्षा करना पड़ता है. आम जनता से सीधे संपर्क में ना आने के बावजूद जनता की सेवा के लिए पूर्णतः समर्पित होता है. इन वायु यातायात नियंत्रण अधिकारी को एक अति कठिन प्रशिक्षण से गुजरना पड़ता है, जिसको पास करने के लिए हर परीक्षा में 80% अंक लाना पड़ता है. वायु यातायात नियंत्रण अधिकारी का प्रथम प्रशिक्षण छः माह का होता है और हर सप्ताह अलग-अलग विषयों का परीक्षा देना होता है. परीक्षा पास होने के लिए दो मौके दिए जाते हैं, अन्यथा घर लौटना पड़ता है. प्रशिक्षण सिमुलेटर पर भी दिया जाता है, जिससे वास्तविक चैनल पर कोई त्रुटि न हो. यह प्रशिक्षण इलाहाबाद के बमरौली में स्थित नागरिक विमानन प्रशिक्षण कॉलेज (CIVIL AVIATION TRAINING COLLEGE) में दिया जाता है. इस कॉलेज में प्रशिक्षित करने वाले अनुदेशक अति-प्रतिभा संपन्न होते हैं. ये अनुदेशक इंटरनेशनल नागरिक विमानन संगठन द्वारा चालित पाठ्य-क्रम को कुशलता-पूर्वक पास किये होते हैं. यह कॉलेज दक्षिण-पूर्वी एशिया में एकमात्र संस्थान है. यहाँ पर विदेशी नागरिक भी वायु यातायात नियंत्रण का प्रशिक्षण लेने आते हैं. अब हम वायु यातायात नियंत्रण अधिकारियों के विभिन्न स्तर के सेवाओं की बात करेंगे. वैसे तो वायु यातायात नियंत्रण अधिकारियों का कार्य अति विस्तृत है, फिर भी हम कुछ मुख्य कार्यों का वर्णन जरूर कर सकते हैं. हर एक वायु यातायात नियंत्रण अधिकारी की रेडियो की तरह फ्रीक्वेंसी होती है. उस फ्रीक्वेंसी पर जहाज का पायलट संपर्क करता है. सबसे पहले जहाज का पायलट इंजन स्टार्ट करने के लिए ग्राउण्ड नियंत्रक (GROUND CONTROLLER) नामक वायु यातायात नियंत्रण अधिकारी के फ्रीक्वेंसी पर संपर्क करता है. यह वायु यातायात नियंत्रण अधिकारी, जहाज के रनवे पर उड़ान भरने से पहले तक, जहाज के पायलट को निर्देशित करता है. इसके बाद यह वायु यातायात नियंत्रण अधिकारी, टावर नियंत्रक (TOWER CONTROLLER) नामक वायु यातायात नियंत्रण अधिकारी को निर्देशित करने के लिए जहाज को उसके फ्रीक्वेंसी पर छोड़ देता है. टावर नियंत्रक (TOWER CONTROLLER) अन्य सम्बंधित वायु यातायात नियंत्रण अधिकारियों से संपर्क कर आदेश लेता है और जहाज को उड़ने का आदेश देता है. जहाज के उड़ने के बाद यह अधिकारी जहाज को अप्रोच या रडार अप्रोच नियंत्रक (APPROACH OR RADAR APPROACH CONTROLLER) के फ्रीक्वेंसी पर संपर्क करने के लिए कहता है. क्योंकि आगे का नियंत्रण उस वायु यातायात नियंत्रण अधिकारी के पास होता है. हर वायु यातायात नियंत्रण अधिकारी का अपना एक क्षेत्र होता है. उसका क्षेत्र खत्म होने पर अगले नियंत्रक को छोड़ देता है

और हाँ ये सारे वायु यातायात नियंत्रण अधिकारी एक ही एअरपोर्ट पर होते हैं. अप्रोच या रडार अप्रोच नियंत्रक (APPROACH OR RADAR APPROACH CONTROLLER) का क्षेत्र ज्यादातर एअरपोर्ट पर क्षैतिज 50 मील और ऊंचाई 18000 फीट होता है. इस क्षेत्र के बाद अप्रोच या रडार अप्रोच नियंत्रक (APPROACH OR RADAR APPROACH CONTROLLER) जहाज को एरिया कंट्रोल नियंत्रक (AREA CONTROLLER) नामक वायु यातायात नियंत्रण अधिकारी को छोड़ देता है. इन अधिकारियों का क्षेत्र ज्यादातर एअरपोर्ट पर क्षैतिज 150 मील और ऊंचाई 46000 फीट तक होता है. अपना क्षेत्र खत्म होने पर वह अगले एअरपोर्ट के वायु यातायात नियंत्रण अधिकारी को छोड़ देता है. यह प्रक्रिया गंतव्य एअरपोर्ट तक पहुँचने तक चलती रहती है. गंतव्य एअरपोर्ट के एरिया कंट्रोल द्वारा निचे उतारकर अप्रोच कंट्रोल को, अप्रोच कंट्रोल टावर कंट्रोल को रनवे पर उतरने का आदेश देने के लिए छोड़ देता है और अंत में जहाज के रनवे पर उतरने के बाद ग्राउण्ड कंट्रोल को पार्किंग तक निर्देशित करने के लिए छोड़ दिया जाता है. पार्किंग में पहुँचने के बाद कंट्रोलर का काम समाप्त हो जाता है. इस प्रकार जहाज सुरक्षित अपने गंतव्य तक पहुँच जाता है. इस प्रकार संछेप में कहें तो वायु यातायात नियंत्रण अधिकारी नागरिक विमानन के क्षेत्र में आकाश का प्रहरी होता है और जहाज को आकाश में सुरक्षित उड़ने में अपना सब कुछ न्योछावर कर देता है. देश-दुनियां से परे दिन-रात सुबह से शाम तक चौबीसों घंटे अपनी सेवा में लगे वायु यातायात नियंत्रण अधिकारी का सोने-जागने, खाने-पीने का कोई निश्चित समय नहीं होता है, जिससे की जहाज में उपस्थित यात्री सुरक्षित अपने गंतव्य तक पहुँच सकें.

वीपी गुप्ता (नागरिक विमानन प्रशिक्षण कॉलेज)

## Trichy Tower: A new Controllers Perspective

### Trichy Tower, Day 1, The Bazooka Moment!!!

As a newly joined Air Traffic controller at Trichy Airport, I was excited to see the ATC tower for the first time. Having seen videos of Air traffic control centers around the world. I had expected a high-end command center-like environment. However, when I first stepped into the Trichy ATC tower, I was pulled back to the 1990s.



Aerodrome Control (ADC), Approach, and Area Control at the training center.

Training at Trichy began with theory classes, where I learned about the basics of air traffic control, such as aircraft separation, airspace in and around Trichy, local standing instructions, letters of agreements, and the tools and charts that controllers use. Once I had a good understanding of the theory, I moved on to practical training.

During my practical training, I gained valuable experience handling live traffic under the supervision of experienced instructors. This experience helped me to solidify my understanding of the theoretical concepts I had learned.

I am grateful for the comprehensive training I received, which prepared me well for

The tower is relatively small, and the equipment is old and outdated. There are no fancy touch screens. Instead, the air traffic controllers rely on traditional methods, such as binoculars and paper flight strips, and a couple of landline phones, and a bulk of hard bounded notebook for record making. Despite the outdated equipment, the Trichy ATC tower is a hive of activity. The controllers are constantly monitoring the skies and coordinating the movements of aircraft. They work under immense pressure, but they remain calm and collected. As I watched the controllers work, I was struck by their dedication and professionalism. They are responsible for the safety of thousands of people every day, and they take their job very seriously.

#### **Trichy Tower, The Training Begins...**

Prior to my arrival at Trichy Airport, I had undergone nine months of rigorous training in the challenges of working as an air traffic controller at Trichy Airport.

#### **Trichy Tower, Keeping cool under Pressure...**

As an air traffic controller at Trichy Airport, my job is to coordinate the movement of a large number of scheduled international flights, a smaller number of scheduled domestic flights, and a sizable portion of military flights. One of the most challenging aspects of my job, but also one of the most rewarding, is separating military aircraft from other scheduled aircraft.

#### **Trichy Tower, Masters of Multitasking...**

Trichy Air Traffic Controllers are masters of multitasking. Air traffic controllers must multitask simultaneously, constantly monitoring the skies for aircraft and birds, coordinating aircraft movements, communicating with pilots, staying aware of weather conditions, and above

all, maintaining situational awareness of other teams working in the airfields and other factors that could affect air traffic.

Trichy air traffic controllers have also managed drone operations in Trichy airspace. This has added a new layer of complexity to our job, as drones have a unique set of capabilities and limitations.

#### **Trichy Tower, Night Duty: Night Sky never Sleeps...**

Night duties as an air traffic controller at Trichy Airport can be challenging, but they are also rewarding. Trichy is a busy airport, and night traffic can be heavy, sometimes with just adequate manpower.

One of the biggest challenges of working night shift for me is to stay alert. It is important to get enough sleep before the shift, and to take breaks throughout the night.

Another challenge of night duties is that we may have to work with a smaller team than during the day.

I feel great to know that I am responsible for the safe and efficient flow of air traffic at night, when people are sleeping and relying on me to get to their destinations safely.

Despite the challenges, I enjoy working night shifts. I find it to be equally rewarding as it comes with 48hrs of rest period following the duty.

#### **Trichy Tower, Thanks for Reading!!!**

I am still learning the ropes at Trichy Airport, but I am grateful for the opportunity to serve as an air traffic controller. I am committed to providing the highest level of safety and service to all aircraft and passengers.

- G. MAHESWARAN  
Jr.Executive(ATM),  
Trichy International Airport

## ALL IN A DAY ..

### **The Prophecy:**

On a frosty December morning,  
the runway glistened bright.  
With snowflake-adorned dreams,  
that B738 prepared for her flight.  
Pre-flight checks done in delight,  
the holiday season had arrived.  
From carousels of Mumbai city  
to sledges in the Alps, just a while.  
Runway blocked in snowfall,  
eh, just a glitch in the matrix.  
An hour early was a wise decision  
she couldn't miss daylight,  
a water canon festival it was.  
But oh, the flight was delayed  
by seven hours in snowfall.  
'It'd be a roller coaster ride',  
The pilot had read in a horoscope  
Lo! The tiresome day had just begun.  
The Air Traffic Controllers assured,  
their spirits towering the sky-  
"Homeland beckons, a joyous call.  
An adventure was in store,  
You'd reach just in time  
in an epic trip for all."

### **The Adventure:**

With her newfound wings,  
the birdie awaited all night,  
in the terminal's embrace.  
Unexpected fascination  
with gates and passengers,  
infant desires of relaxation.  
Strangers with distant stories,  
a town thriving with journeys-  
she travelled with them, 10 hours  
without moving geographically.  
Announcements were made,  
with nostalgia did she embark,  
on the journey in gleaming dusk,  
golden sunset kissing adieu  
to sequins of ocean waves.

Her journey started to unfold,  
she heard Whitman's verse or two  
then soared high with clouds,  
the dream aboard the aircraft,  
a feather travelling in delight  
on an alluring magical flight.

### **The Glitch in the Matrix:**

Then came a stop in a curious array,  
she halted through a wintry ballet  
retracing her steps on frozen tarmac,  
she longed for warmth in this cul-de-sac.  
Warm at night, she shivered  
longing for her companions.  
Though a long interesting day  
she wouldn't want it again, nay.  
With lilac morning whispers  
it was time for her homeland.  
Outside was a soothing warmth  
veiled in white familiar gleam.  
She could finally rest in the hangar,  
She heard the pilot say in a twist,  
the date and time hadn't been missed.  
It was yesterday again,  
With a glitch in the matrix.  
Departed from Mumbai, past in sight,  
arrived in Stockholm, yesternight.  
She had time-travelled indeed!  
Remembering the controller's promise,  
laughed at their wizardry of words.  
Reached just in time as they'd said,  
the water canon parade awaited her.  
No sorcery 'twas, just a wordplay.  
A tale of time travel to cherish,  
dreading to be late she'd forgotten,  
The B738 had travelled in past,  
Why! It was a different time zone.

~A True Story

-By Aditi Mishra  
AM(ATM), CSMIA, Mumbai

## निगहबान ..

ये जो आसमान दिखता हैं नीला सा  
उसके पार हैं एक और आसमान  
जहाँ उड़ती हैं नन्ही सी चिड़िया और  
उड़ते हैं कबूतर ,बड़े बड़े गिद्ध भी  
सब के सब एक साथ  
लोहे के पंख लगाए  
शान से चोंच उठाए  
एक घरोदे से दूसरे तक  
एक लंबे सफर पर।

मैं ताक लगाए देखता रहता हूँ , झरोखे से  
एकटक ,बिना हिले डुले, तल्लीन होकर  
इनकी बोली समझता हूँ मैं और ये मेरी  
बतियाते हैं हम दोनों अलसुबह से सांझ तक  
और कुछ उसके बात भी ,रात के अंतिम पहर तक

झुझुलाना, खिसियाना एक दूसरे से चलता  
रहता हैं जब कभी  
थकने लगता हूँ , कभी कभी पर नहीं  
होने देता आखों से ऑझल किसी को भी  
नहीं भटकने देता डगर से इनको  
निहारता रहता हूँ अपलक झपकाए

कभी कभी इन पक्षियों पर झपट पड़ता हैं  
कोई दानव ,गड़गड़ाहट के साथ  
हिला देता हैं अंतरात्मा तक  
भटकने लगते हैं रास्ते इनके  
सिमटने लगते हैं इनके पर  
खनकती आवाजे लगती हैं भरनि, डर कर

मैं भी अड़ा रहता हूँ ज़िद पर इनको बचाने की  
खुद को समझने लगता हूँ थोड़ा सा खुदा भी  
भिड़ जाता हूँ इन काले घनघोर दानवों से अकेला  
न नीद दिखती हैं ,न भूख प्यास, न छुट्टी न त्यौहार  
इतना आसान भी तो नहीं हो सकता खुदा होना

जब नहीं हो पाती इनसे गुटरगु  
लगता हैं कुछ अधूरा सा दिन भर  
आदत जो पड़ गई हैं इन सबकी  
और क्यों ना पड़े आदत इनकी  
और कौन समझेगा ये बोली ,ये रिश्ता  
हम अधूरे से जो हैं एक दूसरे के बिना

Amit sengar  
AGM(ATC)  
DBAI Airport, Nagpur

# Echoes in the Blue Sky

101 years appears to be an infinitesimal period when we see the life of our universe. It might be a small time for the hunters and gatherers who lived in this beautiful world. In the aviation industry this past century is really a remarkable one. The days reach the count of 101 years after the skies have been under the control of human voice and intelligence. A spirit that looked for safety at the behest. The coherence of the voices made the sky safer smaller and reachable.

The avian species unlike other living beings on this earth has always fascinated the human spirit. The wings of the birds were always a dream for the early man. He wished he could fly and kiss the blue sky. The dream had been an unquestioned wild imagination. Having mastered the technology for flying the Wright brothers had set the things right for the mankind. We have conquered the world defeating space and time. Have we ever thought how do our skies remain flyable and safe? And how do we achieve this? A whisper that makes the world safe is a miracle. Across the world the whispers are commonly referred as Air traffic control.

Man has always been seasoned by the instincts of fear and psychosis. Flying was also not an exemption. It was a fearful chore. Would not we fall? The technology answered No ..Never ...You are always held safe . Amidst the assurances from technology the real frightening mind of a man asked , Are we really safe in our sky when we travel , when this fast and furious giants are in the same sky ? Again an another No and a Big Never .A set of dedicated heroes invest their time energy intelligence and hard work to make the mode of travel the best . The love for null and full guides the instinct . The love for Zero errors and Zero delays and full Concentration and full utilization makes this set of Homosapiens rare and unique affectionately referred as Air Traffic Controllers .

A closed room with a semi lighted ambience and the constant rings of telephones muffled whispers and a confluence of voices of different nationalities if can be dreamt and imagined don't be amazed, that's the place where the Air Traffic controllers works .

Indian aviation is not behind in any respect. It has seen the slow steady and gradual advancement in the aviation sector. From the tiny to the mammoth ones in the fleet of aeroplanes , from a few wealthy passengers to the common masses the scope of Indian aviation sprang up . And in all the achievements and developments stood the silent support of Indian Air traffic Control .Indian aviation has now covered the entire Indian land and ocean airspace and we can dream of connecting India from the marshes to the mountains hills to the plateaus .We ensure the participation to the fullest . When living in the world of the largest democracy its ensured in the aviation arena also. With the regional connectivity schemes the sky was conquered by the remote and needy people of India Never in the past has aviation reached the common public .

The Air Traffic control in India has taken its primitive shapes of legislation in the pre Independence era . The national guidelines and the regulations are built on the Aircraft Rules 1937 . It forms the foundation of Indian Aviation Rules and regulations. The nation has the air Traffic control services provided by Airports Authority of India regulated by the Director General of Civil aviation .

A professional collaboration like Air traffic Control in India without an effective representation is like an ocean without water. The Air Traffic controllers in India are in the safe hands of our Air Traffic control Guild (India) . Based at New Delhi the Guild speaks for

the controllers of India the one and only one association of the 5000 controllers by the controllers for the controllers . The undeclared motto is the concern for the fellow controllers and the unadvertised vision is the welfare.

The task of the representative association in the new evolving aviation scenario is immense. Meeting the challenges of the new aviation requirements while managing our effective presence along with global associations of International Federation of Air Traffic Controllers Association is the need of the hour . At the same time Airports Authority of India as the parent employer has amalgamated and adhered to all the demands of Guild over the time. The regulator on the other hand deal ATC Guild as a professional conglomerate ensuring that the International standards are met with the safety as prime demand and as a bridge between controllers and Regulator . The modes of negotiations debate committees presentation done from ATC Guild with Airports Authority of India and Director general of Civil aviation has borne its fruit . The achievements and recognition that the controller enjoy today are the direct benefit transferred of the skills of our leadership. To Wipe the tears and bring a smile in the controllers is not an easy task for the Guild and it has taken its own time and trait to make the face glitter. With you forever in building the Gross Domestic product and improving the Gross Happiness Index of all our beloved human beings.

Next time when You encounter a helicopter buzzing or an aero plane humming, please be reminded that at the backdrop there always exists a Controller who guide you safe in the vast blue sky.

*A million Miles Away...But Seconds Apart  
Unleashing the vagabond in you  
In the boat along with you  
To your destiny ...The Air Traffic Control*

Anand V  
AGM (ATM)  
Coimbatore International Airport

## **ATC का प्रेम और उसकी बाधाएं**

हम सभी जानते हैं वायु यातायात नियंत्रण अपने आप में एक कठिन काम है, और हमारे ATC उसे रात दिन बिना थके अंजाम देते हैं।

उनके काम के बीच से कुछ हास्य बनाने की कोशिश की है।

कविता दर्शाती है की ATC कैसे अपने प्रेम को अपनी दैनिक जीवन की शब्दावली में ढाल के प्रस्तुत करता है।

मुझको तुमसे मोहब्बत है पर अपना मैच नहीं है राइट प्रिय...

तुम एक एयरबस 320, मैं कागज़ की हूँ कार्डिट प्रिय..

मुझको तुमसे मोहब्बत है पर अपना मैच नहीं है राइट प्रिय...

तुम करती हो जनरल ड्यूटी, मेरी शिफ्ट है लगती डे नाईट प्रिय..  
मुझको तुमसे मोहब्बत है पर अपना मैच नहीं है राइट प्रिय...  
मैं नॉन इंस्ट्रूमेंट रनवे हूं..तुम ऑनली आईएफआर फ्लाइट प्रिय..  
मुझको तुमसे मोहब्बत है पर अपना मैच नहीं है राइट प्रिय...  
तुम्हारा वेक टर्बुलेंस "सुपर" है.. मैं ग्लाइडर करता ग्लाइड प्रिय..  
मुझको तुमसे मोहब्बत है पर अपना मैच नहीं है राइट प्रिय...  
मैं बैठा हूं बनके अल्फा कंट्रोलर.. तेरी हर रेटिंग है राइट प्रिय..  
मुझको तुमसे मोहब्बत है पर अपना मैच नहीं है राइट प्रिय...  
तेरी ग्राउंड विजिबिलिटी लेस देन 5 kms.. मैं हूं VFR फ्लाइट प्रिय..  
मुझको तुमसे मोहब्बत है पर अपना मैच नहीं है राइट प्रिय...  
मैं टावर का ATC.. तुम "को-पायलट" हो इन फ्लाइट प्रिय..  
मुझको तुमसे मोहब्बत है पर अपना मैच नहीं है राइट प्रिय...

-आरिफ (जे.ई.-एटीसी) के कलम से

## प्रहरी

आसमान के प्रहरी हैं हम, नभ में राह दिखाते हैं।  
चौकन्ना और सजग भाव से अपनी पहचान बनाते हैं।  
समय के हर पल की कीमत हमसे बेहतर जाने कौन,  
मिनट तो क्या सेकंडो मेंभी हम लेते निर्णय अनमोल।  
सुरक्षा सहित सेवा का जो नारा दिया निभाते हैं,  
आसमान के प्रहरी हैं हम, नभ में राह दिखाते हैं।  
बारिश आए बर्फ गिरे या फिर कोई आए तूफान,  
हम अपने कर्तव्य पर अडिग, नभ की राह करते आसान।  
राही को मंजिल तक उनकी, हम कंट्रोलर पहुंचाते हैं,  
आसमान के प्रहरी हैं हम, नभ में राह दिखाते हैं।

-Ashok Tripathi , SM(ATM) Lucknow

# Yes, we are ATC .. !!!

Very few people know what we actually do;  
Are you the person in front of plane, no its not true.

Oh then, those who tell not to press button in movie Dhamaal;  
Yaa, we work in the building near the airport, which is very tall.

We guide the pilots to make people reach their destination;  
It's a fascinating job of Enroute & Terminal combination.

Oh, then you might get free tickets, so lucky you guys are;  
No, we don't, but we watch a lot of aircrafts with the help of radar.

It's a job where you see the best sunset and sunrise;  
With BA, ELPA & Medical you cannot compromise.

Always a competition to take over the traffic in ground position;  
Because expedite and maintain an orderly flow of air traffic, that is our mission.

Managing ALR, double banking and monthly trainings are not easy;  
But follow me taking long time on Runway makes the controller uneasy.

LVP, RCR, Bad Weather or Emergencies we are trained for everything;  
Always Follow SOPs, circulars correctly, otherwise be ready for hot spring.

In this job, passion is more than the actual stress;  
Where there is no chance of creating any mess.

Lastly, it's a very special day I must say,  
I wish you all Happy Air Traffic Controller's Day.

Namrata Jain  
AM(ATM)  
AAI, Bengaluru

## ATC VIBES

हम ATC करने वाले जोश हमारा always हाई दूढ़  
दूढ़ के करते है हम Aircraft identify.

जोरदार पहरा रहता है TMA की सीमा पर Estimate  
रखते है पहले लेकर LIMA LIMA पर

कुछ जहाज़ जो आने वाले करते है RADAR पे PAINT  
कुछ उनमे भी ऐसे है जिनको करते हम SQWAK IDENT.

यह सब करके AIRCRAFT FILED ROUTE करता है JOIN  
और इतने में कहता है  
चाहूँ मैं भी DIRECT कोई POINT

बीच बीच में आते FIGHTER किरण, गरुण, पैंथर और  
चेतक कहते है चाहूँ मैं उड़ना  
UNLIMITED आधे घंटे तक।

इसी बीच TAKEOFF भी होते  
आस पास के STATIONS से  
जूझता जाता कंट्रोलर लड़ता  
रहता CONGESTION से

यह सब तो ROUTINE सीन है होता तब बवाल है  
जब UNUSUAL होने लगती  
AIRCRAFT की चाल है।

ऐसे ही भांति भांति की  
आती है SITUATION रोज़  
खुशी खुशी CONTROLLING करते  
ATC कभी लगना बोझ।

-हिमांशु श्रीवास्तव (वाराणसी)

## ATC मेरी नज़रों से ..

जहाज़ों का आकाश में उड़ना,  
कई लोगों का कारोबार होता है,  
किसी के लिए है यह तकनीक,  
तो किसी के लिए अत्यंत मुनाफे का व्यापार होता है  
पर है एक और दृष्टिकोण इससे बहुत अलग  
जिसके मुताबिक इसी के ईर्द गिर्द,  
उसका पूरा संसार होता है।  
उसके लिए,  
हर एक जहाज़, कई जीवन का तार होता है,  
हर एक निर्देश में, कई जिम्मेदारियों का भार होता है।  
सुरक्षा, नियमितता और मदद के भाव से लिप्त उसका  
कार्य  
उसके मन में उल्लास, उन्नति और संतोष की झंकार होता  
है।  
गलती न हो जाने के डर का,  
उसके मन पे भी भार होता है,  
पारिवारिक और व्यावसायिक जीवन में,  
तालमेल बिठाने का कर्तव्य  
उसके मन पे भी सवार होता है,

कितनी विषम है, किसकी स्थिति,  
कहाँ जान पाते हैं सब,  
पर विश्वास और संयम की मदद से,  
वो हर विपदा से पार होता है।  
एक भाषा है यह मेरी नज़रों में,  
जिसके हर वाक्य में एक सार होता है,  
एक सफर है यह मेरी नज़रों में,  
जिसके हर मोड़ पर जीवन का एक नया सच साकार  
होता है,  
यह सिर्फ एक कार्य नहीं,  
सम्पूर्ण व्यक्तित्व विकास की एक कहानी है,  
धैर्य, विश्वास और कर्म से बना वह  
हृदय है यह मेरी नज़रों में,  
जिसकी हर धड़कन में भविष्य का  
रूप साकार होता है

- वंदना कुमारी AM(ATM), Lucknow

## ATC PILOT का रिश्ता

उन्मुक्त आकाश मे जब भी  
एक जहान उड़ान भरता है,  
उसकी उचाईयों और सफर के साथ,  
एक ATC का रिश्ता भी जुड़ता है।  
सामना करता है pilot मार्ग में,  
विषम परिस्थितियों का  
और समय करने उसकी,  
ATC हमेशा उसके साथ खड़ा होता है।  
Cleared for Take off हर बार,  
एक उड़ान को पंख देता है,  
Clear to Land कहते समय,  
मन में सुरक्षा का एहसास होता है।  
उतार चढ़ाव और चुनौतियों से भरा हुआ,  
ATC Pilot का रिश्ता  
अटूट विश्वास और सम्मान के धागे से जुड़ा होता है।

Early Departure और Sequence change की नोक  
झोंक में,  
अपनेपन और अधिकार को एहसास होता है,  
Traffic Information और Direct Route देते समय  
जिम्मेदारी का आभास होता है।  
सुरक्षा और कर्तव्यनिष्ठा से यह  
रिश्ता जुड़ा होता है,  
त्याग और समर्पण के मोती,  
इसमें विश्वास की माला पिरोता है।  
क्षणिक है हर मनमुटाव इस इस रिश्ते में,  
क्षणिक हर तकरार है,  
सम्मान और भरोसा है नींव इसकी,  
प्रतिपल आगे बढ़ता यह रिश्ता  
मन से अटूट होता है।

- वंदना कुमारी AM(ATM)Lucknow

## Who are: Air Traffic Controllers?

Invisible stars of the aviation show,  
Their dedication, thou must know.  
Unsung heroes, their role so profound,  
Keeping us safe, also on the ground.

Amidst the clutter of radar blips and  
lights,  
They orchestrate a graceful aerial ballet  
of flights

Air traffic controllers, in their towers high,  
Guide planes through the vast blue sky.

In the chaos, they never back down.  
With precision and nerves of steel,  
They Deal every situation with zeal

Through stormy weather, day and  
night,  
Their voices guide with calm and  
might  
And ensure each flight's safe and tight

In the vast tumultuous sky, where  
dangers lie,  
Air traffic controllers, they safeguard  
the sky.

In the realm where sky and dreams  
entwine,  
Unsung heroes of the air, shine.

**Rohit Kumar**  
**Assistant Manager (ATM)**  
**Mysuru Airport**

## Space Traffic Management

The skies have always been the realm of air traffic controllers, guiding planes safely through the vast expanse of the atmosphere. But as we stand on the precipice of the commercial space age, another frontier beckons—space travel. This article explores the growing need for traffic control in space and how it will evolve as commercial space travel becomes a reality.



### Upward Bound: The Rise of Commercial Space Travel

With the advent of companies like SpaceX, and Blue Origin, space travel is no longer confined to government agencies. Private companies are launching missions to the stars, and this brings new challenges. The skies are becoming increasingly crowded, not just with airplanes but also with spacecraft, space stations, and satellites. The demand for efficient and safe navigation in space is undeniable.

### Current Space Traffic Management

While the notion of space traffic control may sound like science fiction, it's already a reality. Space agencies such as NASA and international organizations like NORAD monitor objects

in Earth's orbit. They track satellites, space debris, and crewed spacecraft to ensure they avoid collisions. However, the rise of commercial space travel means an exponential increase in traffic, necessitating more comprehensive space traffic management.

### **The Transition from ATC to STM**

Space Traffic Management (STM) will be the ATC equivalent for space. It will involve tracking and monitoring all space objects, issuing launch and landing permits, and coordinating maneuvers to ensure spacecraft maintain safe distances. STM will take the principles of air traffic control and adapt them to the complexities of space.

### **The Unique Challenges of Space Traffic Control**

Space traffic control presents unique challenges. Unlike airplanes, spacecraft can travel at tremendous speeds, change orbits, and be subject to the gravitational forces of celestial bodies. STM will require advanced technology and sophisticated predictive models to ensure the safe and efficient movement of spacecraft.

### **The Role of AI and Automation**

Automation and artificial intelligence will play a significant role in space traffic control. Autonomous systems will track and predict the paths of numerous spacecraft, coordinating adjustments as needed to prevent collisions. Just as in air traffic control, human oversight will still be critical, but technology will be a valuable assistant.

### **The Future of Space Traffic Control**

As the commercial space industry accelerates, space traffic control will undoubtedly evolve to meet the demands of this new era. The skies, both above and beyond our atmosphere, will need dedicated professionals and advanced technology to maintain order and ensure the safety of astronauts and valuable space assets.

In the coming decades, space travel will become as commonplace as air travel is today, and space traffic control will be a vital part of this journey. The lessons learned from the evolution of air traffic control on Earth will serve as the foundation for space traffic control, ensuring that we can navigate the cosmos safely and efficiently.

**Anjaly Antony**  
**AM (ATM)**  
**Bengaluru Airport**

## **The Life of an Air Traffic Controller's Coffee Mug**

Well, my life as a coffee mug in the world of an air traffic controller is nothing short of an adventure. I've seen it all, from the early morning rush to the late-night lulls, and let me tell you, the control tower is a world of its own.

### **Day 1: The Morning Buzz**

The sun is just starting to peek over the horizon, and the control tower is buzzing with activity. The controllers are bleary-eyed, but they know the day won't take off without their dose of liquid motivation. As the coffee machine hums to life, I eagerly await my turn. The aroma of

freshly brewed coffee fills the air, and the controllers crowd around, ready to pour their morning elixir into me. I'm the favorite mug of one particular controller, who affectionately calls me "Muggy."

### **Midday: The Mid shift Pick-Me-Up**

As the day rolls on, I make my rounds from one controller to another. It's my job to keep them caffeinated and alert. Sometimes, they use me as a prop during radio conversations, taking a sip for dramatic effect. I've even been involved in a few heated debates about the best type of coffee – light roast or dark roast. The coffee, and the debates, flow as the airspace remains active.

One particularly memorable day, I witnessed a near-miss incident that had everyone on edge. The tension in the room was palpable as two aircraft unexpectedly came too close for comfort. The controllers, fuelled by caffeine, sprang into action. They issued split-second instructions to the pilots, guiding them to safety.

Phew! The collective sigh of relief in the room was louder than a jet engine on takeoff. The controllers, with shaky hands, set me down briefly. I was proud to have played a small part in keeping them alert during such a critical moment. It's a good thing I'm not a delicate teacup; I'd have shattered from the excitement!

### **Evening: The Calm Before the Storm**

The sun starts to dip below the horizon, and the tower takes on a more serene vibe. The controllers use this time to reflect, recharge, and maybe even share a laugh. I've witnessed some impromptu karaoke sessions when the radar screens go quiet, and the controllers think no one's watching.

### **Night: The Graveyard Shift Secret Weapon**

The graveyard shift is where I truly shine. With the controllers battling fatigue, I become their secret weapon. My presence in the dimly lit control room is like a comforting beacon. Late at night, I'm not just a coffee mug; I'm a trusted companion that provides warmth and a much-needed caffeine kick.

### **Day 2: Rinse and Repeat**

The next morning, the routine starts all over again. I'm filled with pride as I continue my adventures, watching over the controllers through thick and thin. I've been the source of laughter, solace, and camaraderie in this high-stress environment. I've seen controllers come and go, but I remain a constant, ready to hold their coffee and their secrets.

So, the next time you hear about the exciting life of an air traffic controller's coffee mug, remember that it's not just a vessel for coffee; it's a silent observer, a confidant, and a vital part of the control tower's unique world.

**Anjaly Antony**  
**AM (ATM)**  
**Bengaluru Airport**

## मिलते- बिछड़ते दोस्त

गोवा में दिसम्बर के पहले सप्ताह में दोस्तों की महफ़िल जमने वाली है। मन करता है – दोस्तों से मिलूँ, उनके बेपरवाह हँसी के ठहाकों के बीच गुजरे वक्त की खट्टी -मीठी यादों को तरोताज़ा करूँ। पर चाहकर भी नहीं जा पाऊँगा – बच्चों की बोर्ड परीक्षा है। पिताजी की बीमारी के कारण कॉलेज में हुए सिल्वर जुबली मीट में भी शामिल नहीं हो पाया था। थोड़ा मायूस हूँ, फिर भी मन गदगद है। दो नए दोस्त मिल गए हैं – एक चानू और दूसरे का नाम नहीं जानता। शायि उसके लिए साइकिलवाला सटीक बैठेगा। दोस्ती शायद लंबी चले - कम से कम जब तक दिल्ली में हूँ, तब तक बेशक।

हुआ यूँ – पिछले एक महीने से किराये के नए मकान को ढूढ़ने और जल्दी शिफ्ट होने की लंबी जद्दोजहद जारी थी। ब्रोकर, कमीशन, सिक्योरिटी डिपॉज़िट, एडवांस, लीज़, लीज़ की शर्तें, १० प्रतिशत की वृद्धि, बीबी की पसंदगी - नापसंदगी - सब कुछ चीन द्वारा सीमा पर किए गए आतंकजाल से कम डरावना नहीं था। दिल्ली की पॉश कॉलोनियों में मकान की खरीद-बिक्री, डील, आगे -पीछे विस्तार – एक गरीब किरायेदार को शिकार बना गया। मेरे ऊपर वाला मकान बिक गया; धनाढ्य खरीददार ने मेरे मकान-मालिक से डील की और एक महीने के अंदर घर खाली करने का फरमान जारी हो गया। ऊपर वाले मकान में काम चालू - ढमढम, ढमढम। पैसे की धमक और चोट एक बेफिक्र को फिक्रमंद और घर बदलने को मज़बूर बना गई। एक तरफ बड़े शहरों में पैसा, प्रॉपर्टी, फ्लोर एक्सटैन्शन.. का खेल और दूसरी तरफ लाचार, विवश, किराए के मकान में रहने वाला अदना इंसान। खैर, बड़ी मुश्किल और दौड़-भाग, ब्रोकर को कमीशन, मकान - मालकिन को दो महीने की सेक्योररटी डिपॉज़िट और एक महीने का एडवांस, नए घर में बल्ब - बिजली, पानी, मरम्मत.. के बाद आज की सुबह बगल के बगीचे की हवा थोड़ी तरो -ताजा लग रही है। मकान - मालकिन का घर एक-दो दिन पहले ही खाली हुआ था, जल्दी शिफ्ट होने को बार-बार फोन कर रही थी। यहाँ मकान खाली होते ही मालिक नए किरायेदार टिकाने की जुगत में लग जाते हैं ताकि लक्ष्मी की कृपा बिना ब्रेक के बनी रहे। मुझे तो लक्ष्मीजी का कोप -भाजन बनना पड़ा। सच कहूँ तो सारा खेल महीने- दो महीने की तनखाह गटक गया। जेब खाली है पर मन मगन है। चानू और साइकिलवाला – दो नए दोस्त जो मिल गए हैं।

नया मकान पुराने मकान के पास ही है। सोचा – मूवर्स और पैकर्स और ट्रक बुलाने के बदले रेड़ी (टाली) से ही सामान शिफ्ट किया जाए। जो पैसे बड़े व्यापारियों को जाएंगे, मेहनत करने वालों को जाए। सो चानू और उसके साथी राम सिंह की टाली मेरे काम आई। चानू: मेहनत – मज़दूरी करता है पर फकीरी में अमीरी वाला मिज़ाज रखता है। धमक ऐसी की करोड़ों की दौलत को बेधड़क ठोकर मार आए। जो मिला उसी में खुश। कुछ मिला तो सही, न मिला तो सही। कहता है – नसीब में जो लिखा है, उतना तो मिलेगा ही। मैंने अपने नसीब की नाप-जोख की, शायद कुछ बेहतर है। ठीक -ठाक जिंदगी बसर कर पा रहा हूँ, बच्चों को पढ़ा पा रहा हूँ, नाराज़ बीबी से निभा रहा हूँ।

अब चानू शायद थोड़ा ज़्यादा खुश है। जितना सोचा था, उससे ज़्यादा पैसे मिले हैं। जिस दिन कमाई नहीं होगी, उस दिन के भोजन का प्रबंध हो गया है। नया पेंट - शर्ट भी जल्द ही मिल जाएगा। न मिले तो भी उसे कोई गम नहीं – फकीर जो ठहरा। चानू और राम सिंह जब पुराने कपड़े, जूते, जैकेट बाँट रहे थे; चानू ने एक जोड़ी जूता छोड़कर सब कुछ राम सिंह को दे दिया। दरियादिली ऐसी कि दानवीर कर्ण भी सर झुका ले। चानू की दोस्ती मेरे लिए गोवा में मिल रहे दोस्तों से कम नहीं।

साइकिलवाला – दिल का राजा, कम बोलने वाला पर हरदम मुस्कुराने वाला। दिनभर सड़क किनारे दूसरों की साइकिल ठीक करता है लेकिन अपनी एक साइकिल भी नहीं। बस से रोज आता - जाता है। अपने खून -पसीने से आधारभूत संरचना को सुदृढ़ आकार देने वाले, अर्थ - व्यवस्था को मजबूत करने वाले मेहनतकश लोगों को एक मर्यादित जिन्दगी की मूलभूत सुविधाएँ क्यों मयस्सर नहीं हो पाती – आज तक समझ नहीं पाया। महल बनाने वाले के पास खुद की छत नहीं; खेतों में हल चलाकर फसल लहलहाने वाले के पास अपनी ज़मीन नहीं।

...। कल साईकिलवाले की आँखों में नमी थी। नवरात्रि चल रही है, ज़्यादातर मज़दूर गाँव चले गए हैं। कमाई नहीं हो रही। मेरे दिये दो पैसे से सामने ढाबे में रोटी खाते-खाते जब मुझे निहार रहा था, मेरे जनम-जनम की भूख मिटती जा रही थी। साईकिलवाला अब बिटिया की पुरानी साईकिल से आता-जाता है, बस का किराया बच जाता है। जब वह साईकिल के पेडल पर ज़ोर लगाता है, मेरी भी एक्ससाइडज़ हो जाती है।

सोसाइटी के बाहर वाले पान दुकान पर कश लगाते हुए जब चानू और साईकिलवाले से आँखें चार होती है तो मन गुलजार हो जाता है। गोवा के मीट को मिस करने का, दोस्तों से न मिल पाने का मलाल तो है पर नई दस्ताने-दोस्ती का नज़ारा दिलकश भी है। चानू, साईकिलवाला और किरायेदार – दोस्ती चलेगी, निभेगी। ईश्वर ने चाहा तो दोस्तों के अगले सामूहिक सम्मेलन में ज़रूर शरीक होऊंगा।

संतोष कुमार  
संयुक्त महाप्रबंधक  
IAA

## हास्यरंग

अंतर्राष्ट्रीय ATC दिवस की सभी को हार्दिक बधाई। पिछले कुछ दिनों से हम जश्न उत्सव के मोड में हैं, समारोह की तैयारी है और इसी दरमियान मुझे अपने काम से संबंधित कुछ रोचक तथ्यों को लिखने का मन हुआ आपसे साझा करना चाहता हूँ-

\* संपूर्ण विश्व में ATC ही केवल ऐसा कार्य है जिसके बारे में आम लोगों की भिन्न-भिन्न भांतियां धारणाएं हैं जैसे-

**परिवार जन की धारणा** - नात-रिश्तेदारों के अनुसार हम रौबदार अफसर हैं जो समूचे एयरपोर्ट को नियंत्रित करते हैं, कोई कार्य हमारी अनुमति के बिना नहीं होता। एक बार तो मेरा रिश्तेदार विलम्ब होने के कारण जहाज को आधे घंटे रुकवाने का आग्रह कर बैठा था।

**हमारे गांववालों की धारणा** - लड़का एयरपोर्ट में है और बढ़िया कमाता है, एयरपोर्ट में काम क्या करता है एक बार बताया था पर समझ नहीं आया। गांव के कुछ स्वयंभू सर्वश्रेष्ठ शिक्षित नौजवान अपने फ़िल्मी ज्ञान से यह अनुमान लगाने में कामयाब हो जाते हैं की ATC किसी बड़े मोबाइल टावर सदृश खम्भे पर खड़े हो ट्रैफिक हवलदार की भांति दाये-बाये हाथ हिला जहाज का मार्ग प्रशस्त करते हैं। हमारी सम्पूर्ण नितिकुशलता उनकी नज़रों में केवल हाथ हिलाने तक सीमित है।

**पत्नी का नज़रिया** - मेरी पत्नी को मेरे काम के तकनीकी पहलुओं जानकारी न के बराबर है, उसे मात्र इतना इल्म है की हम पायलट से वार्तालाप करते हैं। उसे हमारी कार्यशैली को विस्तार से जानने में रूचि है और कई दफा उसने मुझे समझाने की लिए ज़िद भी की पर मैं यह कह टाल देता की तुम्हें समझ न आएगा यद्यपि मेरी इस बात से उसके आत्मसम्मान को झटका लगता। एक रोज़ उसने ज़िद की अति पार करते हुए अल्टीमेटम दे दिया की आज आपको अपना काम समझाना ही पड़ेगा। कोई चारा न देख मैंने ठीक से समझाने की ठान ली और मैंने एक सांस में धाराप्रवाह ILS, DME, VOR, NDB, VFR, IFR की परिभाषाएँ बतला डाली। इतने भारी भरकम शब्दों का प्रहार उसके कर्णपल्लव न सह सके और उसका सर चकरा गया, उस दिन से उसने ठान लिया कि अब वो अपने काम से काम रखेगी। वह समझ चुकी थी कि ATC विद्या समझने में उसे कम से कम दो जनम लग जाएंगे। अब उसका ध्यान केवल माहअंत कि तनख्वाह में होता है, हालाँकि अपने तिरस्कार का प्रतिशोध लेने हेतु पिछले कुछ दिनों से वह मेरे मेडिकल और नाईट अलाउंस पर भी डोरे डालने लगी है।

\* AAI में चयनपश्चात् हमारा प्रारंभिक प्रशिक्षण प्रयागराज स्थित केंद्र में होता है और यहीं हमारा नवयौवन आरम्भ होता है। यहाँ हम नौसिखियों को अल्प समयवधि में अपार सीखना होता है अतः त्रुटि होना स्वाभाविक है। प्रशिक्षण के दौरान असंतोषजनक प्रदर्शन पर प्रशिक्षक द्वारा हमें प्रतिदिन विविधतापूर्ण डांट, सुझाव मिश्रित प्रचंड गालियाँ और प्रेमपूर्ण दुर्वचन अर्पित किये जाते हैं, सब कुछ सरेआम होता है। आह : सारे संसार की लाज में सिमटा एक अबला ATC के चीरहरण का वह दृश्य कितना मार्मिक होता है। इस त्रुटिचर्चा के दौरान आस पास खड़े साथी दर्शकवृंद की भांति रंगमंच के उस मनोरंजक नज़ारे का पूरा लुप्त उठाते हुए मुग्ध रहते हैं, यद्यपि नंबर सबका आता है।

जल्द ही हमारा मन-मस्तिष्क और शरीर समग्ररूपेण गालीपूफ हो जाता है और अल्प समायावधि में ही हम पूर्णतः बेशर्म और निर्लज्ज हो चुके होते हैं, यही हमारे भविष्य के स्ट्रेस मैनेजमेंट कि बुनियाद होती है। ट्रेनिंग मुकम्मल होते होते हमारे कानों में क्लीयरेंस की ध्वनियां, आंखों में रनवे के नक्शे और रक्त नाड़ियों में phraseologies बहने लगती हैं। उस ट्रेनिंग सेंटर की मीठी यातनयों के कारण ही हम जीवनपर्यंत कार्यसम्बंधित मान -अपमान के विचार से मुक्त हो जाते हैं। इंस्ट्रक्टर के वो मार्शल ला ही आगे चलकर एक प्रतापी कंट्रोलर का निर्माण करते हैं।

- \* काम के दौरान चैनल पर हम दीन -दुनिया गांव -समाज की चिंता काफूर कर दिमाग के सारे अवयवों को अपनी स्क्रीन/सेक्टर पर केंद्रित करते हैं और निरंतर जहाजों के समागम को सुलझाने में प्रवृत्त रहते हैं। चूंकि पायलट और ATC के बीच निरंतर दोतरफ़ा ट्रांसमिशन का यह कार्य सुरक्षित निगरानी और नियंत्रण का है अतः इस दौरान फ़ोन का उपयोग पूर्णतः वर्जित है। फिर भी दो ट्रांसमिशन के बीच के 5 सेकंड में वाट्सअप, फेसबुक, ट्विटर, समाचार और साथ ही जलपान कर लेने कि अनोखी प्रतिभा केवल ATCO's में पायी जाती है। गंभीर मुद्रा में एकदम व्यस्त होने का स्वाँग करते हुए हम इतनी चतुराई और सतर्कता से मोबाइल फ़ोन में गोते लगाते रहते हैं कि बड़े बड़े अदाकार भी मोहित हो जाएँ।
- \* हमें ऐसा प्रशिक्षण दिया जाता है कि स्थिति कैसी भी हो पायलट के किसी भी आकस्मिक और असामायिक अनुरोध पर भावनाओं और दिल से नहीं अपितु दिमागी रणनीति से काम लेना है, हम सभी ऐसा ही करते हैं। हालाँकि कुछ अपवादी कंट्रोलर्स किसी महिला पायलट से सामना होने पर जहाज के साथ साथ हृदय की भी एंट्री दे देते हैं। ये कंट्रोलर्स इन चंद मिनटों कि वार्तालाप को स्वर्णिम अवसर के रूप में लेते हैं। नारीवाणी सुनते ही इनके मन मंदिर में लावण्य ज्योति उभर आती है, उस मोहिनी के कंठ से निकली वह ध्वनि इनके मन में लहरियां लेने लगती है। आवाज कि टोन से उस मनोरमा के चंचल चित्र की कल्पना करते देख लगता है मानो पाषाण में अग्नि ने प्रवेश कर लिया है और अब वह धीरे-धीरे पिघल रहा है। आह : प्रतीत होता है रेगिस्तान में कोई फूल खिल गया हो। उस रमणी का ट्रांसमिशन रूपी संगीत हेडसेट के माध्यम से कानों में जब जब बरसता है, कंट्रोलर को सरगम का राग सुनाई देता है। रिमझिम वार्तालाप में छिपी हुई गुप्त लीला देखने लायक होती है, उन चंद मिनटों में प्रेम का बीज अंकुरित हो पत्तों से लद जाता है और फल फूल उठता है। "Men will be Men" यह ब्रह्मवाक्य इन्ही महाऋषियों के लिए रचित हुआ है। इतने ट्रैफिक में भी आनंद नमक वस्तु को खींच लेने की यह कला केवल ATCO's में पायी जाती है। ऐसे अवसर पर इन कंट्रोलर्स कि कर्कशवाणी अचानक मधुर स्वर में कैसे तब्दील हो जाती है इसका शोध ICAU के कनाडा स्थित मुख्यालय में जारी है।
- \* हमारी आधिकारिक कार्यकारी भाषा अंग्रेजी है। मातृभाषा ना होने के कारण मेरे सामान कुछ हिंदी भाषी कंट्रोलर्स अंग्रेजी में असहज होते हैं। अंग्रेजी के अल्प ज्ञान के कारण कोई हमारा इगो हर्ट करें यह हमें पसंद नहीं। हमने जुगाड़ की अखिल भारतीय प्रतिभा को अपनाते हुए नित्य प्रयोग के कुछ शब्दों को कंठस्थ कर लिया है। अतः इस असहजता को हम अपने स्टेटस और टशन पर हावी नहीं होने देते। अब हमने हमारी भाषा- शैली विषय-व्यंजना पूर्णतया बनावटी अंग्रेजीनुमा करली है। "स्कूल" को "इस्कूल" बोलने वाले भी अब इस अंदाज में "टावर को टार" और "नाइन को नाइनर" कहते हैं कि ब्रिटिश पायलट भी शरमा जाए। रटे हुए शब्दों की ऐसी अद्भुत प्रतिपादन शैली और कहां मिलेगी। एक नवचयनित सादोत्साहित कंट्रोलर से शादी प्रस्ताव दौरान पूछा गया कि आप कितने भाई बहन हैं, उसका जवाब था- ट्री।
- \* नौकरी का वह भाग जो मुझे सर्वाधिक अरुचिकर है वह है नाइट शिफ्ट। यूं तो नाइट ड्यूटी कई विभागों में है। पुलिस कानून व्यवस्था के लिए, डॉक्टर सेवा के लिए, जवान सुरक्षा के लिए नाइट शिफ्ट करते हैं, चोर-डकैत तो अपनी आजीविका के लिए ही नाइट शिफ्ट पर निर्भर हैं। कुछ इसका आनंद उठाते हैं तो कुछ के लिए यह यातना से काम नहीं, मुझे तो "नाइट शिफ्ट" के पांच आदम अक्षर देख कर ही घबराहट होती है। उन नवविवाहितों के मानसिक विप्लव को तो व्यक्त करना असंभव ही है जिनको दुल्हन से दूर ऑफिस में नाइट ड्यूटी करनी पड़ती है, उनका कोमल हृदय रात भर की वियोग व्यथा से भरा रहता होगा। नाइट ड्यूटी में शुरुआती 2 घंटे तो सामान्य बीतते हैं उसके बाद संघर्ष शुरू होता है। निद्रा की शक्तिशाली झपकियों के बीच समय-समय पर जहाज की खबर लेती रहनी पड़ती है, निद्रा के लघु धावे से परास्त हो आंख लगने पर यदि किसी जहाज की समय पर खबर ना लें तो उसकी खबर अगले दिन अखबार पर ही मिले। अर्धचेतना की इस दशा में जब भाव और भाषा दोनों शिथिल होने लगते हैं तब बिस्किट, नमकीन, सिगरेट की कश जागरण के पोषक बनते हैं। जैसा कि हम जानते हैं आवश्यकता आविष्कार की जननी है अतः हम सभी आवश्यकतानुसार कुर्सी पर समाधि मुद्रा में बैठे हुए शॉर्ट पावर नैप की गुप्त विद्या में दक्ष हो चुके हैं, इस विद्या की विशेषता यह है कि दूसरों को हम अब भी काम करते हुए प्रतीत होते हैं। वाह : कितनी वास्तविकता होती है हमारे अभिनय में। मुझे पूरा विश्वास है कि कुर्सी पर बैठे हुए सोने की महान कला का प्राकट्य सरकारी दफ्तरों में ही हुआ होगा। चूंकि विद्या दान महादान है अतः इस कला में निपुण कंट्रोलर नए शिष्यों को इस महान विद्या की दीक्षा देते हैं। यह व्यवस्था पीढ़ी दर पीढ़ी चलती रहती है।

- \* हम नियमबद्ध बहुआयामी धैर्यपूर्ण और एकाग्र किस्म के लोग होते हैं। हमारा दृष्टि क्षेत्र इतना विस्तीर्ण होता है कि एक साथ कई जहाजों पर निगरानी और नियंत्रण रखते हैं, बगैर हमारे अनुमति कोई जहाज ज़मीन पर हिल नहीं सकता। इन सभी दैविक प्रतिभाओं के बावजूद आम भारतीयों की भांति हमारा नियंत्रण भी हमारी पत्नियों के हाथ में होता है।
- \* दुनिया के लिए सावन मस्ती लेकर आता है आम लोग झूमते गीत गाते और आनंद उठाते हैं, हमारे जहाज भी झूमते हैं। सावन की पहली बरसात के साथ ही हमारे डेविेशन रूपा संग्राम की रणभेरी बज उठती है। वेदर BAD और मन SAD होता है। खराब मौसम में जहाज बादलों से महायुद्ध करते हैं, ये हवा में नाचते और तूफानों में क्रीड़ा करते हैं। ऐसे समय में हमारे सेक्टर में विचरण कर रहे सभी जहाजों को सुरक्षित गंतव्य तक पहुंचाना एक कष्टप्रद साधना है। थोड़े ही समय में मस्तिष्क दोपहर के तपे हुए बालू सा जलने लगता है, मुखमंडल पाला मरे हुए कमल की तरह मुरझा जाता है फिर भी हम संयम का बाँध नहीं टूटने देते। इन दिनों में अक्सर कंट्रोलर्स को अपनी प्रोफाइल " I have tower rating " में "have" ko "Had" से रिप्लेस करना पड़ जाता है।
- \* MATS- 1, MATS-2, DOC 4444 जैसे महान ग्रंथ ही हमारी गीता और कुरान हैं। इनकी नियमावली और आयतों का निरंतर अध्ययन और फिर परीक्षा हमारे कार्य का अनिवार्य हिस्सा है, हम 60 की उम्र तक भी अध्ययनशील रहते हैं। अक्सर ऐसा होता है कि पुत्र दसवीं बोर्ड की परीक्षा की तो पिता ब्लॉक 3 कि तैयारी साथ करते हैं। पिता पुत्र के पारस्परिक सहभागिता का ऐसा अद्भुत सहयोग केवल हमारे विभाग में संभव है।
- \* हमारे बारे में यह अफवाह काफी प्रचलित है कि हमारी हवाई यात्रा निःशुल्क होती है और वर्ष में एक बार विदेश भ्रमण प्रायोजित होता है। यथार्थ में तो हम सभी फ्लाइट बुकिंग के लिए अधिकाधिक डिस्काउंट कूपन ढूँढते पाए जाते हैं।

मुझे विश्वास है हास्य के उद्देश्य से ऊपर लिखी गई बातें आपने भी महसूस की होंगी । इनका मकसद केवल आपको गुदगुदाना था। असल जीवन में सुख-दुख खुशी चिंता क्रोध अस्थिरता और अन्य किसी भी अनुकूल-प्रतिकूल परिस्थितियों में एक समान धैर्य और एकाग्र रहते हुए अपनी कर्मधारा के प्रति समर्पित सभी वायु यातायात नियंत्रकों को अंतरराष्ट्रीय ATC डे पर शुभकामनाएं।

**अजीत प्रताप सिंह**  
**CSMIA MUMBAI**

## **New Experience**

With heavy hearts and with NIL experience on a rainy evening of 30th June 2022, three lucky (or unlucky) controllers from Trichy, Mangalore and Kolkata gathered at Guwahati to face the challenges to start a new Air Traffic Services Station at Donyi Polo Airport (Then Hollongi) Airport. Two of my other colleagues accompanying me to Hollongi had been waiting at Guwahati since last two days as National Highway from Guwahati to Hollongi was flooded and no vehicle movement was possible. On the morning of 01/07/2022 we all three started our adventurous journey to Hollongi by road. Finally, we reached Hollongi in the afternoon same day. After heavy struggle with more than one-foot-deep mud all around, one of our vehicles could reach the project office of the airport which was also the office of the Airport Director. We could find no one in the office except one AGM (Engg. -Civil). We handed over joining report to him only for onward submission to the Airport Director. Though we coordinated for any available temporary accommodation with the Airport Director, on reaching Hollongi we could find that no such arrangement was available. So, after a group selfie in smile, with the same struggle with mud and all, losing one of my shoes in mud we went to Gohpur, Assam which is 20 km south of Hollongi for night stay. Great Mahamaya hotel of Gohpur was our shelter for the night and we all three stayed in the same room after a light dinner in nearby dhaba. Next day again we reached airport to meet the Airport Director. We met two of our instructors in the office of the Airport Director from Guwahati on tour to

Hollongi. We had to go to Guwahati again to attend the training for initial rating for newly established ATS unit. So, after meeting the Airport Director, we started our journey to Guwahati back along with two of our instructors. And our training went smoothly at Guwahati and we were rated for the newly established ATS Unit at Hollongi. On 14/07/2023 we came back to Hollongi. Our rigorous search for rented house started and same day we managed to arrange our accommodation. The real heat started now. Status of the airport was: Runway Concrete work completed, no runway edge light was installed, no approach light was installed, no marking was done, boundary wall was incomplete, Interim terminal building was under construction and above all ATC to be provided from 5.5 meter high and around 14 feet x 5 feet mobile ATC tower. No telephone line was established; no mobile network was working. And we had to face 5 member DGCA inspection team for Aerodrome License, scheduled to visit in few days. Heavy construction work was going on all around. There was no room for us to sit, no computer, no internet service. Finally, GM(ATM-NER) provided one laptop for the ATS In Charge. And one small room with one table and two chairs was offered by Airport Director to ATS officers. And we started our journey from there. With unimaginable hardship, without food and drinking water, we continued our effort to collect all required documents from internet as well as different airports and friends and colleagues. The journey continued, LOA for ATS service among Jorhat, Guwahati, Tezpur and Hollongi was signed. We published our Aerodrome Data. We published our Instrument Approach Procedure (RNP and ILS). DGCA inspection completed successfully and we got VFR License initially. Later on, license was converted to IFR (Day operation). Airport was inaugurated by Honorable Prime Minister on 19/11/2022 and schedule flight operation to Kolkata of Indigo Airlines started from 28/11/2022. The journey continued with just 03 of us including ATS In Charge and today Hollongi is one of the best Airport in the entire North east region with 2300 meter of concrete runway with PCN 63 R/B/W/T, 900 meters of Cat I approach lighting system, ILS for runway 26. We can accommodate up to 03 number of A320 type of aircraft.

We have separate helicopter parking bay for 04 numbers of MI 172 type of helicopters. We have separate Isolated Aircraft Parking Stand. Today we have scheduled flight to and from Delhi, Kolkata, Ziro, Pasighat, Dibrugarh and Guwahati. In this one year, sweet and sour journey coming out of routine ATC after long 15 years, I learnt many new words like PDC, ATR, Imprest, eOffice, Noting etc. etc. Hope we will learn many more in next one year. I could learn the amount of effort behind the curtain required to make one trainee rated and above all management of Human Resource. Off course this posting is a blessing from The Almighty in terms of self-management not only for me but also for my family members whom I left behind in my last place of posting, Kolkata.

I will cherish this posting and establishment of new ATS Station from the scrap, handling VVIPs, learning documents reading and preparing, managing a complete office in my sweet memory for the rest of my life.

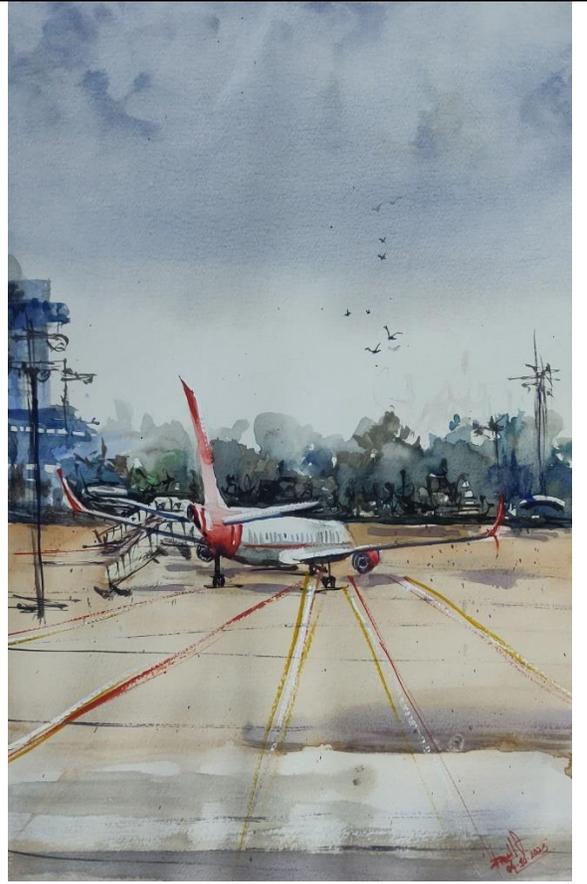


**Tapash Nath**  
**AGM(ATC)**  
**Donyi Polo Airport, Itanagar**



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[www.atcguild.in](http://www.atcguild.in) 

[gsatcguild@gmail.com](mailto:gsatcguild@gmail.com) 

T-1/7, ATC Guild Office 

Pocket B, INA Colony

New Delhi-110023

