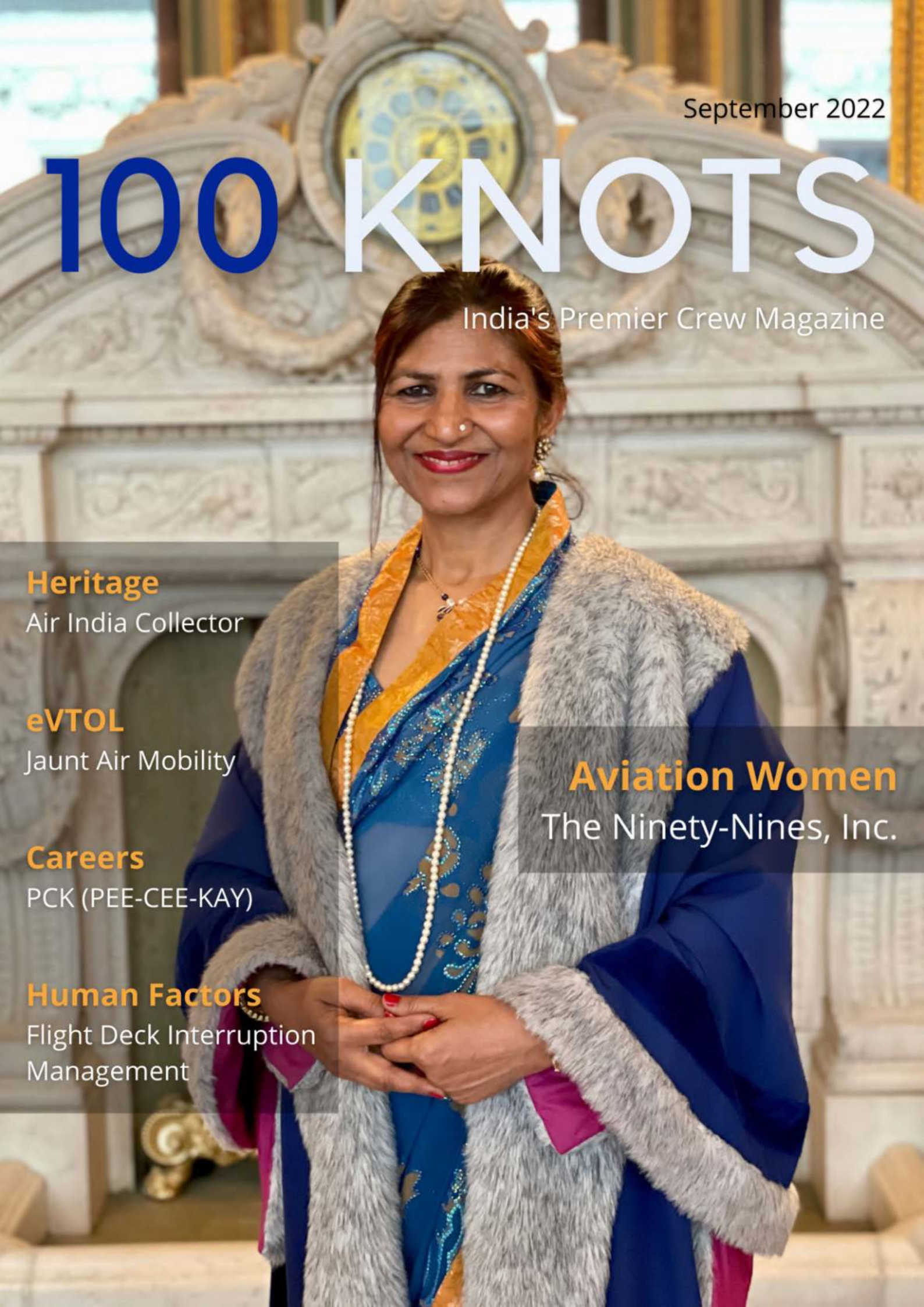


September 2022

100 KNOTS

India's Premier Crew Magazine

Heritage
Air India Collector

eVTOL
Jaunt Air Mobility

Careers
PCK (PEE-CEE-KAY)

Human Factors
Flight Deck Interruption Management

Aviation Women
The Ninety-Nines, Inc.

Editor
Preet Palash
Sakshi Shreya

Contributors
Capt. Nivedita Bhasin
Capt. Vijay Macmilton Devadas
Capt. Peeush Kumar
Piyush Khaitan
Vivek Matthai
(Venkat) Chittur Venkatasubban Ph.D., F.R.Ae.S

Correspondents
Radhika Bansal
Prashant Prabhakar
Jinen Gada

Photographer
Abhishek Singh
Utkarsh Thakkar
Janam Parikh
Dipalay Dey

Illustrator
Saurav Chordia

Creative Head
Abdullah Haque

Queries and Suggestions
Mail: editor@100knots.com

EDITORIAL DESK

Preet Palash
Editor

Dear Colleagues,

Welcome to the September issue of the 100 KNOTS Magazine.

August has been a very interesting month in the Indian Aviation Industry. The Directorate General of Civil Aviation has finally decided to remove the ongoing fare caps on the tickets of domestic airlines from August 31. This is a piece of welcome news for all the airlines that reported losses in their last quarter, shattered by the pandemic and rising oil prices, at the same time battling cutthroat competition. Civil Aviation Minister Jyotiraditya Scindia has also pitched for a global hub airport in India. This is particularly important because India recorded 140 million domestic and 60 million international travelers pre-Covid in 2020. That's 200 million, which is expected to go to 400 million travelers in the near future, so there's an opportunity beckoning at our door to make sure that we have an international hub here in India.

In this issue, we have brought together Industry experts from all domains who have written on critical subjects, both technical and non-technical that affect our daily operations. We get candid with Mr. Piyush Khaitan who proudly owns the largest collection of Air India memorabilia as he takes us through his collection and the stories behind them. Capt. Vijay Macmilton Devadas talks about a very critical yet ignored topic of Flight Deck interruption management and how the industry can mitigate it. Capt. Nivedita Bhasin talks about her aviation journey and present role as the director of Ninety-Nines Inc. Chittur Venkatasubban from Jaunt Air Mobility talks about their unique features and India plans. And finally, Capt. Peeush Kumar talks about PCK, an old custom of handing down 'friendly' information about military training courses to incoming batches by senior officers.

I close this message by inviting everyone to submit their exciting ideas to 100 Knots. All papers are received with a high degree of enthusiasm and they will find a home in future issues. We are committed to publishing all discoveries, methods, resources, and reviews that significantly cover the Indian aviation sector at large.

Our sincere thanks to all the contributors for their support and interest.

We hope to hear from you soon!

Happy Reading!

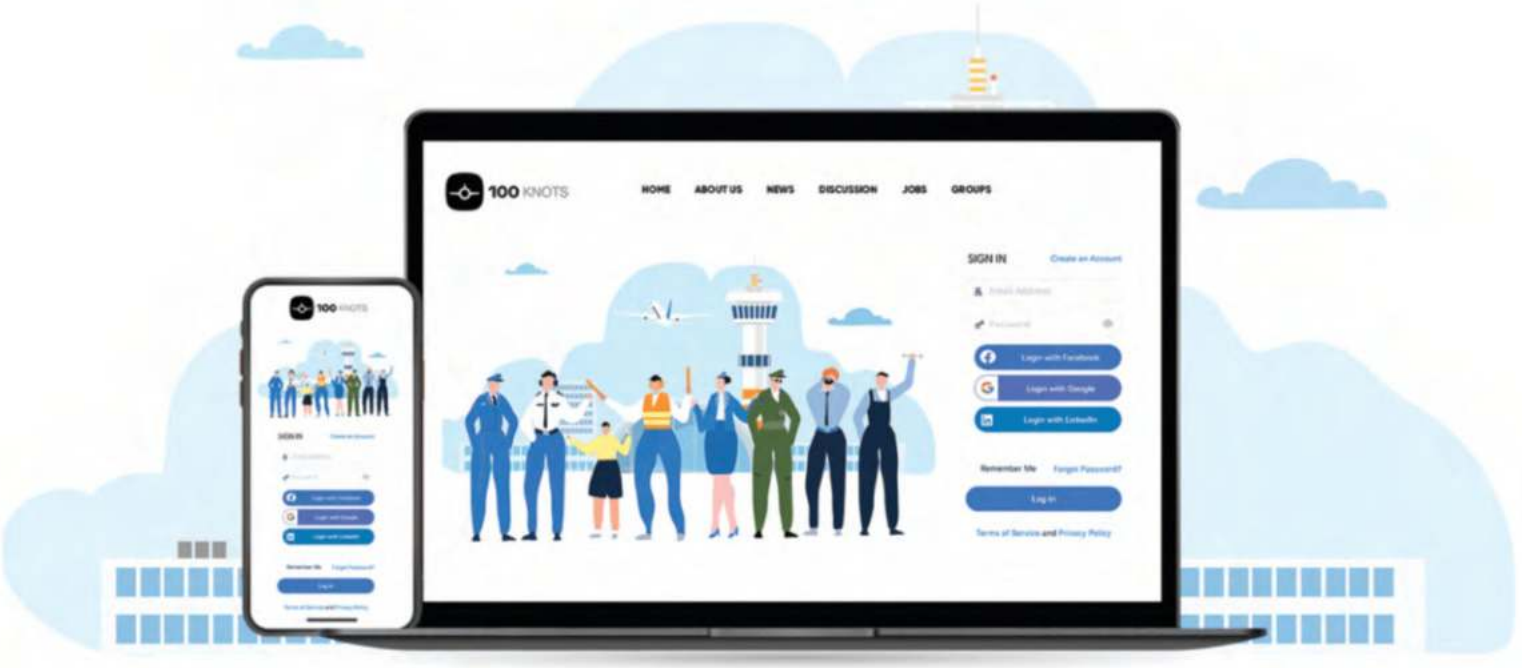
100 KNOTS

Join India's aviation ecosystem

Follow us on

100knotsnews | 100knotsofficial | 100Knots | hundredknots

Scan the QR Code below or visit us at
www.100knots.com



THIS ISSUE

Air India Collector

Piyush Khaitan Vivek Matthai

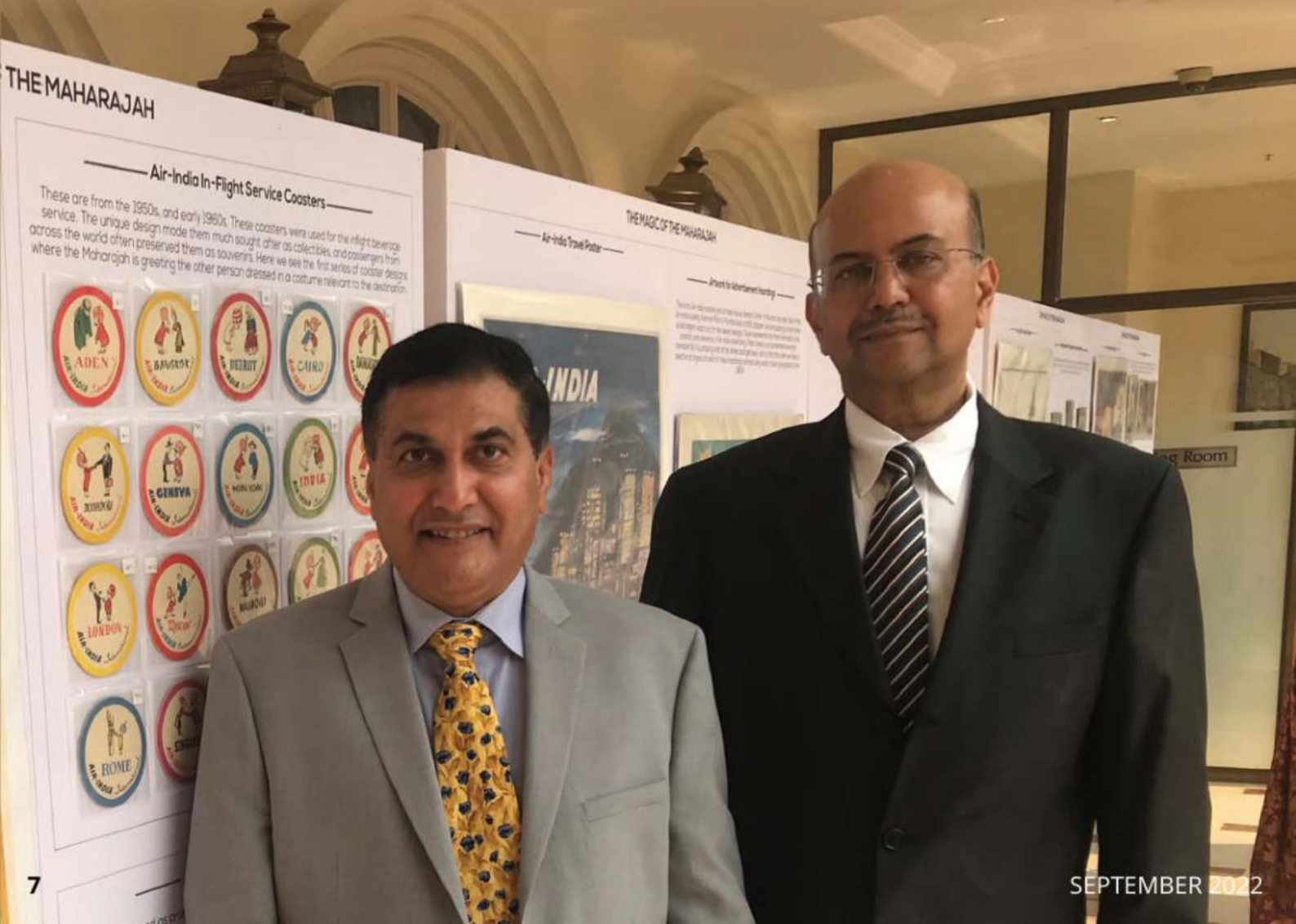
About Me

I have been a philatelist for some years and felt drawn to the very attractive first flight covers produced by Air India during the 1960s and 70s. This got me interested in their unique style of depicting the Mahraja, their mascot. They featured him in their advertising and souveniers in a very humorous and striking manner. My curiosity grew, one thing led to the other, and the seeds were sown in my interest of collecting Air India memorabilia. This was about 15 years ago.

I got to know more and more about the airline and this wonderful Maharajah and all the imagery they created around him; the way they to care of their passengers and provided a memorable travel experience. This aroused great fascination and curiosity in my mind. As I went deeper and deeper, I was awestruck with the personalities behind this creative journey, people like Bobby Kooka their marketing director, Jal Cowasji their creative director, artists like you Umesh Rao of J. Walter Thompson, their agency and so many artists who worked for the Air India art studio. The way they moulded the personality of the Mahrajah into someone who had incredible chutzpah and could get away with the most outrageous antics always with a touch of unapologetic humour. I can very confidently say there is no enterprise anywhere in the world which has ever managed to create a mascot like this. This is the stuff legends are made of.

The Team

The hobby has always been a personal effort and I was helped greatly by my friend Vivek Mathai who also had similar interests so we worked together in building this collection. As the collection grew I felt the need for a full-time assistant to research, curate and catalogue the collection. I also started a website so that my collection can be seen by anyone with similar interests. That's when Dharmdev Maurya also joined my team. Since then we have added one more assistant and Maurya is now the Webmaster and keeper of the collection.



Collection Process

Getting hold of these items is an adventure, like a treasure hunt. Some items are very easily available and others are almost impossible to find. Generally I scout around with a variety of sources, starting with the raddi-paper walla (waste paper sellers), particularly in Mumbai whom I have got to know quite well over the years. They have an amazing network buying discarded papers and household goods from peoples homes, and now reach out to me whenever they get something related to Air India. On the other end of the spectrum are antique dealers and large global auction houses like Sotheby's and Bonhams where from time to time rather interesting memorabilia is offered on sale.

Then again there are former Air India employees and passengers who have flown the airline who are in possession of some airline memorabilia. They reach out to me and once they know of my interest and either gift or sell me items for my collection.

Personal Favourite

It's difficult to list any one collectable as favourite, however, I talk about one of my favourite pieces in the collection. This is an Automaton (mechanical creation) which I bought from an antique dealer in France. This is a replica of the Maharaja statue probably manufactured in the 1950s. We have the Air India Maharaja dressed in his traditional livery of the red sherwani and turban and there is a electrical motor concealed inside the framework which actually causes him to bow his head down and move his hands as a welcoming gesture, perfect for a window display in one of their ticketing offices. I have never seen anything like this and wonder whether this was originally manufactured for Air India or made by someone just as a memento. Nevertheless, it is absolutely charming and perhaps a unique addition to my collection.

Most Prized Possession

I have this 35mm film called 'To Serve is to Love'. This was produced for Air India in 1974 and directed by Zafar Hai. At that time Muzaffar Ali (of Umrao Jaan fame) worked for Air India and was the consultant to the film. This film also went on to win the National Award that year for the best film in its category. It was meant to be a promotional film for the airline to be shown at various travel & trade shows and other promotional events. The music was composed by Pandit Ram Narayan and performed by himself, his son Pt. Brij Narayan, Ut. Zakir Hussain and Pt. Hariprasad Chaurasia. There is no dialogue in the film, it has fantastic instrumental music in the background. The film features actual Air India flight attendants and captures the luxury and magic on board their newly acquired Boeing 747 Jumbo Jet. The film shows the beautiful interiors of the aircraft and the way passengers were pampered by the airline and the excitement of travel to different play parts of the world aboard the Air India Palace in the Sky.

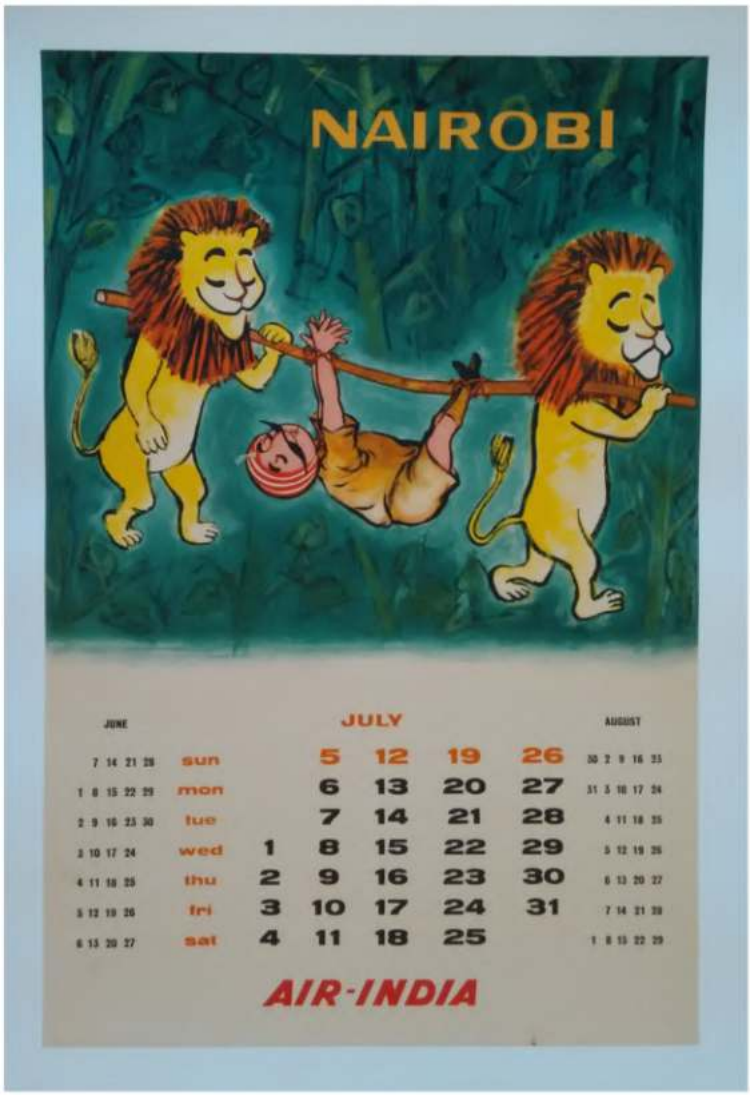
Many copies of this film were produced for promotion, but seem to have disappeared over time and apparently what I have is now the only surviving copy of this film. How I chanced upon it itself is a very interesting story. It seems that the film was processed by a lab in Pittsburgh, USA. This lab caught fire and there was an auction sale off material salvaged from that debris. One of the items was a rusted and worn out can containing a film reel. Browsing through auction listings, I chanced upon the label and it had something to do with Air India so I bought it completely blind and unseen. I had no idea what the contents were or what condition they would be. To my utter delight, the real inside and the celluloid was in pristine condition with the colour and sound fresh and intact. This 17 minute film is a delight to watch and I have seen it many times and invited with family and friends to viewings.

That First Item

I had started with collecting Air India flight covers and very quickly got attracted to their beer coasters. These are printed cardboard discs on which they would place beer glasses another beverages during inflight service. It is absolutely amazing how the airline converted such a simple object into a piece of art, entertainment and memorabilia. They depicted the Air India Maharaja on each of these coasters dressed in different costumes performing different activities, all with a touch of unique humour and design. These were largely conceived and designed by their in-house art studio, which in my opinion is unparalled in quality of art, design and imagination. Air India also produced a set of coasters with cartoon characters by RK Laxman in his own unique style. I have now over 600 such coasters in my collection. If one studies carefully, they depict the history and evolution off the airline itself, the routes they flew the destinations they served and of course the creative genius that blossomed within their art studio.

Most Recent Addition

I recently added a whole bunch of notes and documents from the estate of John Stroud. He was a recognised aviation journalist and author based in London, and was the publicity manager for Air-India International from inception in 1948 for many years, and has taken great pains in documenting the early history of the airline. Getting these documents in origiinal was a coup and they are a treasure trove of information. he has recorded every single aircraft in the fleet including details from when it joined service until when it was retired and very useful data on the performance of the airline and the evolution of the routes and other important events in the airline's history for the first 10-15 years. I have digitised all of these and now made them available on my website (www.airindiacollector.com) for anyone who is interested to view. I was also able to get most of the airline calendars and house magazine published by Air India in the 60's to the 80's which I consider the golden era of Air India. The Air-India calendar were a much sought after item and anyone who knew anyone connected with the airline would move heaven and earth to get hold of one. These reveal a very interesting aspect off our history, the Air-India Art Collection, and the unique way Air-India served as the cultural ambassador of our country.



Maintenance

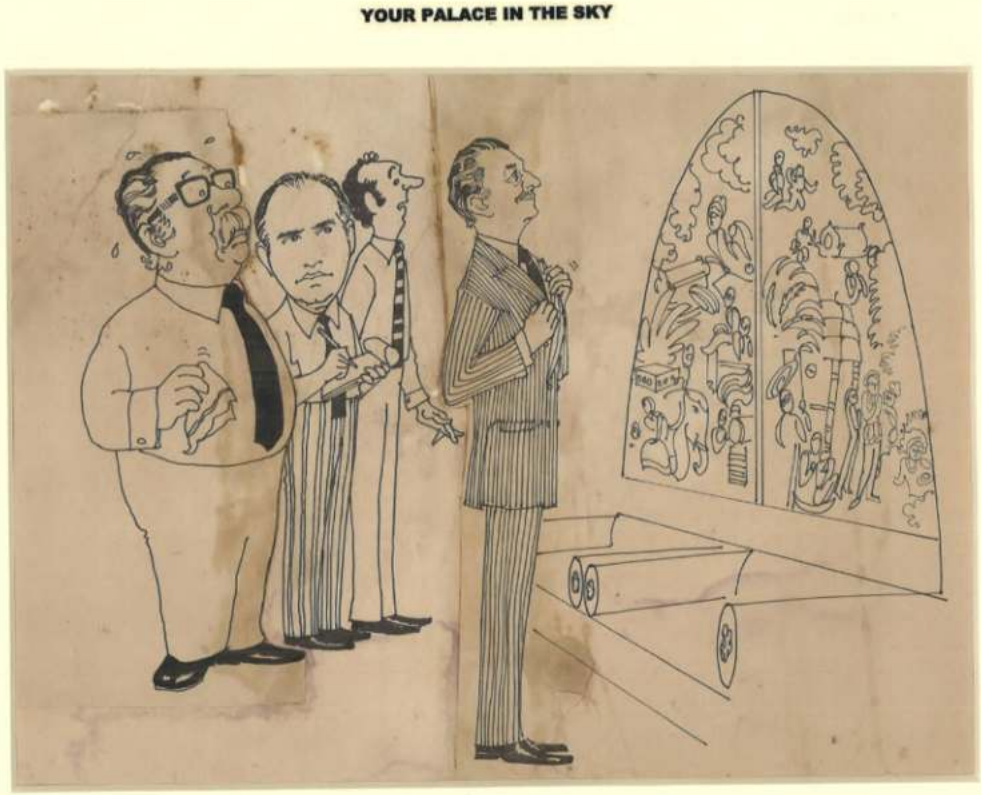
Taking care of these items is quite difficult. The typical Indian environment is extremely hostile to preservation of these artefacts. This is because of the high heat and humidity. Often these have been stored for the last 40-50 years in poor condition which means a lot of them have fungus and bacteria, they also are quite badly kept so they are torn, chipped off, creased and discoloured. So the first thing that I need to do is to have them professionally cleaned and restored. They are then individually packed in acid free pouches or boxes to prevent further deterioration and stored in cool dark and dry environment, ideally at a temperature of 20-25C and humidity of 50-60%. This process is time consuming and expensive. Because of their large size, the travel posters are typically worse for wear by the time I get there and they are also the most interesting. I have all of these professionally restored and mounted on archival grade linen using acid free gum at a studio in Chicago. It would be fair to say that these artefacts need considerable effort and investment in restoration, preservation and display.

Exhibits

My effort is entirely on an amateur basis so I do not trade in these items. I do loan out some materials for exhibitions from time to time. There was one in Mumbai about two years ago and a function by the airline in November last year. There is another exhibition in New York starting this September for six months which will be featuring some of rarities from my collection.

airindiacollector.com

My interest in collecting Air India memorabilia has brought great joy and satisfaction to me. I have always enjoyed discovering new an unknown things, and the achievements of this airline are something that we as a nation should be proud of. This airline has achieved heights and global recognition as no other airline or corporation in the world has ever. I felt that it is my duty to document and spread awareness of this, and hence decided to create a website (www.airindiacollector.com) . On this website I have showcased my collection of over 6,000 unique artefacts from the airline which is perhaps the largest such collection in the world. I have also listed a lot of reference books and other information sources for anyone interested.. This the website is updated at least once a week and through this I get emails from various people all over the world with similar interests. They could be former employees, collectors, researchers or just ordinary passengers who have flown the airline and want to share their memories and experiences. This has made me feel part of a global community of Air India fans and is a source of great satisfaction and pleasure.



The Beginning of Air India

The early history of Air India is very interesting and often mis-reported in our country. What very few people know or understand is that Air-India international was formed as the most successful example of public-private partnership in 1948. Owned only 25% by Tatas and 49% by the Government of India, it was never really a Tata enterprise. Later on in 1953 the airline was nationalised and it became 100% owned by the Government of India. The most glorious era of the airline was from the 1960s all the way to the early 1980s when Air India was recognised as the finest airline in the world. This was under the chairmanship of Mr J.R.D. Tata who continued to serve the airline without salary and without ownership, but also full credit to the Government of India to allow a public sector enterprise to be managed with such a free hand and to support the airline to grow to such heights of glory. The common perception that Air-India International belonged to Tata and the Government of India took it away is simply not true.

In the 50's and 60's Air India was a very small airline with just a handful of aircraft and limited budgets. They had to compete with global giants lake Pan-Am, KLM, Air France and BOAC. Air-India realised that they can never be the biggest airline in the world and so decided to simply be the best. Air India built its entire brand around the Mahraja who was their mascot and who promised passengers an unforgettable flying experience. They welcomed passengers aboard their Magic Carpet and into their Palace in the Sky. Each passenger was indeed treated like a maharajah, offered the best possible luxury, the best inflight service and the finest of food and wine. There was simply no other airline in the world that could come close to Air India in terms of their inflight experience, the modern fleet and their well trained, charming and caring crew.

The Myth about Tata Airlines and Air India

Strictly speaking Tata airlines never became Air India in the way we understand it. Let me explain. In 1932 Tata Sons Limited created an aviation division which secured the contract to fly mail from Karachi to Madras. This was the start of the domestic airline service off Tatas. Then on for the next 20 years this airline grew to four major routes originating from Bombay; The Western coastal route to Trivandrum, the Northern route to Delhi, the Eastern route to Calcutta and of course the original Karachi to Colombo route. During this period, the airline first changed its name to Tata Air Services and later to Air India Limited, but was essentially a domestic career serving Indian cities and limited neighbouring destinations. This was nationalised in 1953 along with eight other airlines and they all merged together formed Indian Airlines Corporation.

TATA SONS, LTD.

AIR-INDIA International

AIR-INDIA

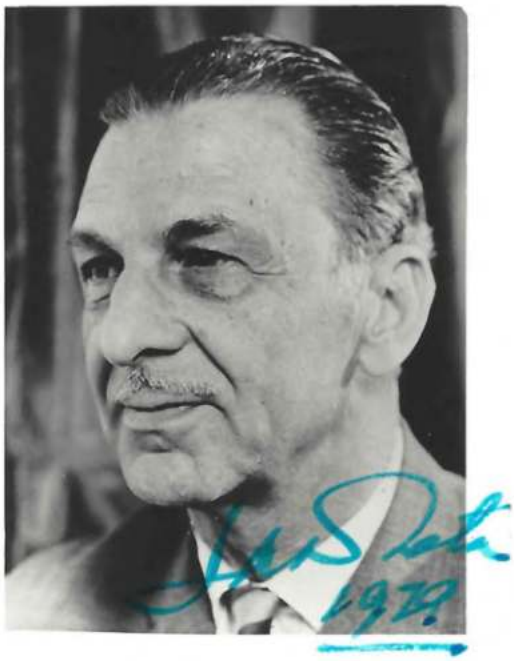
Air-India International Limited, the airline we know as the foreign carrier was formed in 1948 as an entirely separate company. This flew on various international routes, essentially one across Europe to London and later to New York. A second to Africa, a third to Australia, fourth to Tokyo and the fifth to Moscow. The two airlines were independent of each other. So you see, Tata airlines never really became Air India. Later, in 1961, Air-India international limited changed its name to Air-India. Indian Airlines itself merged into Air India in 2011.

Facing the Competition

Air India positioned itself very cleverly as the cultural ambassador of our nation. To fly Air India was to enter a magical world of luxury and eastern mystique. The aircraft cabin itself was decorated with Indian motifs and colours, the flight attendants dressed in traditional Indian attire and the food on board included a delectable assortment of spiced and herbed Indian food. This is something that was deeply appreciated by passengers from all over the world who had never experienced anything like this. In fact, on the highly competitive transatlantic route from London to New York, Air India was the preferred carrier despite having competition from below BOAC and PanAm. Air India always had the most modern and up to date fleet, and highly trained staff. They always splurged on passenger comfort.

The Downfall

From the mid 1980s there was a lot more government intervention in the running of the airline and decisions were taken which were not necessarily in the best interest of the passengers or the enterprise. This led to a gradual but irreversible decline. This clearly goes to show that as Indians we have it in us to create globally competitive and world class enterprises and can compete with anybody on their own turf.



Legacy of JRD Tata and will it return?

It will be very difficult to regain the glory of the 60s and 70s. Times have changed and so have circumstances. The airline business itself has always been difficult and is now even more challenging. Even when Mr. Tata was managing Air India profitably and expanding rapidly, there were so many airlines around him which were continuously losing money and compromising on passenger comfort and safety standards. It was his genius and his greatness that was to a large extent responsible for the success of the airline and how they managed to grow and remain profitable, and still provide a unique and unparalled flying experience. I simply cannot imagine how anybody can bring that back.

With recent privatization, I would expect that with the new management, Air India will find the money to modernise and expand its fleet, and pitch aggressively in the growing international travel market. I'm sure the management knows everything about the glory of the airline and have big plans around how they will position the airline and what they want to do with it. I wish them luck and would simply add that they carry a billion dreams on board every time they fly. Air India is a legacy every Indian is proud of.

Flight Deck

Interruption Management

Capt. Vijay Macmilton Devadas
A320 Captain

Could you recollect a situation where you had to focus on writing something; this kid next to you constantly asked questions until you got irritated or annoyed (Couffe & Michael, 2017). Another situation while driving your car is when this vast advertisement board grabs your attention. You subconsciously exceed the speed limit and trickle gradually into the other lane. In both cases there was a distracting element like the kid's question or the advertisement board. It caused interruption from the actual task leading to irritation, annoyance, and even performance degradation (Strobach et al., 2011). All this is fine until you can handle the kid and get back to your writing or back to your wheels in maintaining the speed and lane discipline. But something else happened On Dec 29, 1972, Eastern airline flight 401. The pilots were tasked with routinely flying the airplane. However, with a failed landing gear light bulb, all the pilots in the flight deck were distracted by fixing the bulb and interrupted from the task of flying the aircraft. With the autopilot inadvertently tripped off, the plane started to descend gradually. The altitude deviation went unnoticed by all the pilots as they were engaged with the more stimulus and salient distraction of the light bulb, eventually leading to a fatal crash.

In theory, Interruption is the process of suspending the primary task (flying the aircraft) to attend to the distracting job (fixing the light bulb) (Rich, 2010). But let us question some baseline principles, why did the pilots get distracted? Even if they were distracted, why couldn't they return to their primary task of flying the aircraft? First, let us try and understand how the human mind works.

The Mind Tree

Let us imagine our mental mind as a tree; this tree has a massive trunk and many big branches; in each of these branches, there are many smaller branches, and finally, the sub- branches have many leaves. I call it the mind tree. This tree is a wealth of information, and there is a monkey at the base of the tree who would assist us by picking up the information we desire. In the case of the pilot of eastern Airlines 401, the desired information on flying and monitoring the flight path is available on a specific mind tree leaf. The monkey would climb the mind tree trunk, diverge into the branch, enter into the particular sub-branch, and access that individual leaf, giving all the required information in flying and monitoring the flight. In cognitive psychology, we call this mental path; in other words, the mind follows these specific routes in accessing a particular data set. According to the theory of perception, what we desire as information is directly influenced by our sensory perception of the external world of sight, sound, touch, and smell. This means if there is a distraction in the outer world, like the pilots of 401 perceived a failed light bulb in the landing gear indicator.

Sensory receptors pass this information to the monkey and immediately ask the monkey to return to the base of the mind tree and move to a different location to acquire the data for handling a broken light bulb; subsequently, the pilot stops monitoring the aircraft's path and starts attending the blown-out bulb. And these answer the first question of why the pilots got distracted in the first place. Now let us understand why the distracted pilots did not return to their interrupted tasks. As The pilots were trying to fix the bulb, the monkey remained in this new spot because the distractor was highly stimulating, like a banana for the monkey (Leroy, 2009). In addition, the involvement of 2 other flight deck crew members and the selective attention given to this situation made the situation perceived as highly stimulating to the pilot's mind, leading to tunnel visioning and no spare resource left to switch back to the former task and hence kept them occupied in the distracting task (Rummel et al., 2017).

Challenges to Return

Let us also take this further to understand if the pilots had hypothetically remembered to return to their original task of flying by some internal stimulation and wanted their monkey to go back in monitoring the aircraft; the first challenge would have been resumption lag (Wise, 2019); according to research, there would be a switching cost (McFarlane, 2002) in time as the pilot has to clear the mind of the present schematic (Cooper & Shallice, 2000) of removing the bulb fixing event; and build back the schematic of monitoring the aircraft. Some research suggests that spending more than the 30s (Cades, David Michael, 2011) on an interrupted task could require higher resumption time in a more increased mental workload. Hence, there could have been a delay in switching back to the monitoring role. Even if some deviation alerts could have visually and aurally warned the pilots, some research suggests that with limited attentional resources while fixing the bulb, the selective bias of sensory receptors would have eliminated or rejected the alerts due to the distracter utilizing all the mental resources (Bruya & Tang, 2018), which as per information processing theory would not have been successful in redirecting the monkey in the mind tree to return to the primary task.

Other Interruptions

Before we find solutions, let us identify other interruptions in the flight deck to have a broader perspective. During a flight's turnaround, the flight deck crew are busy preparing for the next leg through various procedures, checklist, briefings, weather update, and ATC clearances. All the members in the flight deck are expected to align in a similar mental model, that is, have their monkey at the equivalent spot in their respective mind tree, which makes work seamless regarding task sharing and expectations. However, various other stakeholders are involved during a turnaround. Hence, there is a constant Interruption from the gate agents regarding a baggage issue, the cabin crew regarding a passenger problem, engineers regarding some failed equipment or fuel uplift, and ATC with the clearances. On average, pilots experience about 8 interruptions during a turnaround. The perceived workload is comparable to manual flying in the simulator (Gontar et al., 2017). It is interesting to note here that all the procedures, checklists, and briefings in the flight deck are designed as a series of flow without any interruption; in other words, the mental schematic is expected to be linear and sequential (Loukopoulos et al., Jan 1, 2001) without being interrupted or disturbed. Yet, in reality, there is a lot of distraction and Interruption. As a result, the monkey in the mind tree is confused about staying at the right and an appropriate spot. In addition to being interrupted, these interruptions are never planned in terms of timeline or events; they are very random and erratic (Perlow, 1999), causing annoyance and anxiety and reducing flight safety margins. Taking this further to the subject of metacognition, which means one's awareness of the knowing the known and the unknown, the pilots might not even be aware if they are victims of distraction leading to interruptions which exposes them without a safety shield.

So, what's the solution, or what can we do about reducing Interruption or the consequences of interruptions? First, consider lowering interruptions (Baethge & Rigotti, 2013), so we can keep the monkey at the appropriate place in the mind tree. To start with, we have to collect data from the actual world operations of what interruptions pilots face, their intensity, scope, timeline, predictability, or unpredictability. Next, we must begin mind mapping these interruptions with the stakeholders involved to understand its consequence and influence on safety and efficiency. Once we have a working model of the various interruptions, we could try the following; evaluate the Interruption's impact on the overall system functioning, and identify interruptions that could be eliminated from the system; as a result, reduce the distraction for our monkey, and keep it in a steady state of functioning.

Next, suppose that a particular Interruption is essential for the nature of operations (Leroy & Glomb, 2018). In that case, we must keep the Interruption and find ways to deal with it by reducing its negative consequences on safe operations by placing the Interruption at an appropriate timeline. Suppose it is under a highly predictable zone. In that case, we can develop training solutions for pilots (Cades, David M. et al., 2011) to manage them through procedures and a checklist (Parke et al., 2018), and some research has indicated that placing interruptions at the beginning of the task could be less deleterious effects than one at the end, or middle of the tasks as there could be less information to recall at the beginning of the task (Gilbert & Shallice, 2002). Saying all this, we are making our monkey aware that we will be expecting these interruptions. We have a strategy to handle it by predefining the monkey's paths or routes to the most appropriate location in our mind tree.

Suppose the Interruption cannot be placed in a timeline. In that case, we must have some methods to handle unpredictable Interruptions through a novel idea called "Global Interruption Checklist," a quick checklist that could be run after dealing with an interruption; this would take the pilots back to the last established point in the phase of procedures. The checklist could be developed with the synergy of the manufacturer, airlines, regulator, and training department. In this method, too, the monkey would be repositioned back to an appropriate safe position in the mind tree as per the phase of flight.

A Holistic Approach to Aviation Safety

Speaking of all of this, where are we headed in the future with this, and is there anything else we could do? New problems could arise as business models and operating concepts evolve, but it would call for different solutions. But we may not be able to see through these problems yet in the subject of interruptions; however, we could be vigilant, and there are ways to track and understand the trend. A novel idea is the concept of big data; airlines worldwide can collect the data on Interruption and make it available globally for manufacturers, airlines, and regulators. This data could be further complied from a past timeline to the present and interpolated into the future with various mathematical combinations. The data could consider the influence of geography, sample size, nature of operations, culture, technology, and expected future changes of these influencing factors. The compiled data could be processed by various filtering techniques to reduce noise from the data and have meaningful factful information. Next, the data should be analyzed in multiple dimensions and predictive paths to see how and where it unfolds and to what extent interruptions could deteriorate safety margins and define a tipping point for future Interruption-related problems by a detailed computational reiteration of the projection.

But the big question is, what's in it for me now? Why are we bothered about what will happen in the future, and can we not handle it then? Well, the answer is yes, we will take it when it hits us, but we have to be prepared now; just like the eastern airline's flight 401 has been a wake-up call in the past, we don't have to wait for another such accident to wake up and start finding solutions, in addition, developments in the aviation industry in terms of the design of airplanes, the concept of operation, training, all involve mammoth investments. We have to be wise in our choices by using the projected data to plan our future aircraft designs and developing the operational technique and the ideology of the training concept. We must also have some flexibility in retracting a few steps back to adapt to unknown challenges such as outdated technology or the development of new technology. The definition of safety itself could be different in the future; because machines and systems have already moved toward robustness and predictable-correctable failure rates. We might have processes and programs running on the safety ceiling to maximize efficiency, where we cannot have a scope for distractions and interruptions reducing our performance. And we will have to strike the right trade-off between economic and human perspectives.

References

Baethge, A., & Rigotti, T. (2013). Interruptions to workflow: Their relationship with irritation and satisfaction with performance, and the mediating roles of time pressure and mental demands. Work and Stress, 27(1), 43-63. 10.1080/02678373.2013.761783

Bruya, B., & Tang, Y. (2018). Is Attention Really Effort? Revisiting Daniel Kahneman's Influential 1973 Book Attention and Effort. Frontiers in Psychology, 9, 1133. 10.3389/fpsyg.2018.01133

Cades, D. M., Boehm-Davis, D. A., Trafton, J. G., & Monk, C. A. (2011). Mitigating disruptive effects of interruptions through training: What needs to be practiced? Journal of Experimental Psychology. Applied, 17(2), 97-109. 10.1037/a0023497

Cades, D. M. (2011). Understanding the Effects of Interruptions on the Quality of Task Performance Available from Dissertations & Theses @ George Mason University - WRLC https://search.proquest.com/docview/868576020

Cooper, R., & Shallice, T. (2000). CONTENTION SCHEDULING AND THE CONTROL OF ROUTINE ACTIVITIES. Cognitive Neuropsychology, 17(4), 297-338. 10.1080/026432900380427

Couffe, C., & Michael, G. A. (2017). Failures Due to Interruptions or Distractions: A Review and a New Framework. The American Journal of Psychology, 130(2), 163-181. 10.5406/amerjpsyc.130.2.0163

Frijda, N. H. (1993). Theœ emotions (Repr. ed.). Cambridge Univ. Press u.a.

Gilbert, S. J., & Shallice, T. (2002). Task Switching: A PDP Model. Cognitive Psychology, 44(3), 297-337. 10.1006/cogp.2001.0770

Gontar, P., Schneider, S. A. E., Schmidt-Moll, C., Bollin, C., & Bengler, K. (2017). Hate to interrupt you, but... analyzing turnarounds from a cockpit perspective. Cognition, Technology & Work, 19(4), 837-853. 10.1007/s10111-017-0440-4

Leroy, S. (2009). Why is it so hard to do my work? The challenge of attention residue when switching between work tasks. Organizational Behavior and Human Decision Processes, 109(2), 168-181. 10.1016/j.obhdp.2009.04.002

Leroy, S., & Glomb, T. M. (2018). Tasks Interrupted: How Anticipating Time Pressure on Resumption of an Interrupted Task Causes Attention Residue and Low Performance on Interrupting Tasks and How a "Ready-to-Resume" Plan Mitigates the Effects. Organization Science (Providence, R.I.), 29(3), 380-397. 10.1287/orsc.2017.1184

Loukopoulos, L., Dismukes, R., & Barshi, I. (Jan 1, 2001). Cockpit interruptions and distractions - A line observation study. Paper presented at the https://search.proquest.com/docview/26644536

McFarlane, D. C. (2002). Comparison of Four Primary Methods for Coordinating the Interruption of People in Human-Computer Interaction. Human-Computer Interaction, 17(1), 63-139. 10.1207/S15327051HCI1701_2

Parke, M. R., Weinhardt, J. M., Brodsky, A., Tangirala, S., & DeVoe, S. E. (2018). When Daily Planning Improves Employee Performance: The Importance of Planning Type, Engagement, and Interruptions. Journal of Applied Psychology, 103(3), 300-312. 10.1037/apl0000278

Perlow, L. A. (1999). The Time Famine: Toward a Sociology of Work Time. Administrative Science Quarterly, 44(1), 57-81. 10.2307/2667031

Rich, K. (2010). Review of an Article: Biron, A., Lavoie-Tremblay, M., Loiselle, C (2009). Characteristics of work interruptions during medication administration. J Nurs Scholarsh; 41(4):330-336. Journal of Vascular Nursing, 28(1), 47. 10.1016/j.jvn.2009.12.002

Rummel, J., Wesslein, A., & Meiser, T. (2017). The Role of Action Coordination for Prospective Memory: Task-Interruption Demands Affect Intention Realization. Journal of Experimental Psychology. Learning, Memory, and Cognition, 43(5), 717-735. 10.1037/xlm0000334

Strobach, T., Liepelt, R., Schubert, T., & Kiesel, A. (2011). Task switching: effects of practice on switch and mixing costs. Psychological Research, 76(1), 74-83. 10.1007/s00426-011-0323-x

Wise, S. (2019). Turning Interruptions into Engagement? A Daily Approach to the Study of Interruptions on the Employee Engagement of Knowledge Workers Available from Dissertations & Theses @ Bowling Green State University https://search.proquest.com/docview/2316380899

About the Author

Vijay Macmilton Devadas is a line training captain and an Airbus procedural trainer with an airline in India. He also works with the CRM team as a pilot and cabin crew facilitator. He has formerly worked with various airlines, including Indian Airlines, Air India, and Emirates flying A320, A380, and B787. In his educational background, he has a bachelor's in Mechanical engineering and Post Graduate Diploma in Business Administration, and currently a student with Embry Riddle Aeronautical University in the Master of Science – Human Factors.

His motivation is to understand "why we think the way we think" and apply them to the commercial aviation environment of human psychology and bring awareness to the industry and public.
In his personal life, he mostly enjoys reading various disciplines of science, philosophy, and psychology. His hobbies include motorcycle riding and bodybuilding. He also enjoys having different coffees as a beverage, which helps him think with insight and penning down his thoughts.


TUG

The Ninety-Nines, Inc.

Empowering Women Pilots Since 1929

Capt. Nivedita Bhasin
Director
99s International Board of Directors

Tripoli International Airport, as Air India's first A330 landed from New Delhi in February 2011 to evacuate Indians during Operation Safe Homecoming.

from L-R : India Section 99s Founder President Ms Chanda Sawant Budhabhatti with Capt. Saudamini Deshmukh and Capt. Nivedita Bhasin as they are inducted in the Forest of Friendship at Atchison, Kansas, USA, 21 June 1991

I wanted to be an Airline Pilot since a very young age. In the late 1970s, I started gliding lessons after I was refused admission to the Delhi Flying Club, as I was hardly 15 years old. One day while speaking to my neighbour, an Airline Pilot, he suggested I meet his friend and colleague, India's first Commercial female Pilot, Ms. Prem Mathur, who lived close by in New Delhi. I would often ride my bicycle to her home, and she would regale me with stories of her flying days at Allahabad and Deccan Airways, always leaving me mesmerized.

Thereafter, I was introduced to Indian Airlines' first woman Aircraft Maintenance Engineer, Miss Bhuvan Gupta and also to Capt. Saudamini Deshmukh, who had recently joined Indian Airlines as a Pilot.

In 1965, a delegation of American women pilots, led by Isabelle Mcrae of ElCajon Valley Chapter, of The Ninety-Nines Inc., visited Bombay. This was the first time, women in India met international women Pilots. The then International President, Lois Feigenbaum helped form the India Section of the 99s in 1976. From Saudamini I got to know about The Ninety-Nines, Inc. She had received a scholarship from them to complete her Commercial Pilots training in the US. I joined this organization in 1983 and have been associated with it since then.

The Ninety-Nines is an international organization of women pilots. It is named The Ninety-Nines because, in 1929, a group of 99 female pilots met in New York under the leadership of Amelia Earhart, the first woman to fly across the Atlantic Ocean. The objective was to create an organization that would support and nurture women's interests in aviation, at the same time carrying forward the legacy of women aviators.

Roles and Responsibilities

The organization's ultimate goal is to uplift women in aviation and more specifically flying. This is accomplished by providing mutual support, sponsorships, mentorship, and scholarships. One highlight is the Professional Pilots Leadership Initiative (PPLI) where I have also been a mentor. In this leadership initiative, women pilots can apply to PPLI, and if selected, she will be matched to work closely with a mentor for a period of 6 months. The mentor will provide full support to the mentee in achieving the goals that she had set when applying to participate in this program.

Another important objective of The Ninety-Nines is to preserve the history of women pilots. It owns two museums - the Amelia Earhart Birthplace Museum (AEBM) in Atchison, Kansas and the Museum of Women Pilots (MWP) at our headquarters in Oklahoma City, Oklahoma. The India Section will similarly undertake a project to preserve the rich history of our Indian women pilots.

Most of us would be unaware of the first Indian female Commercial pilot, Miss Prem Mathur, who started flying in the early 1930s and received her license in 1957. She along with many others are standing strong between us to tell their story. It is very important that we document it or else we will lose this part of history, their struggles, and how their actions made Indian aviation into what it is today.

Nivedita, inspiring the children of Chanda Satsang Vidyalaya, village Lathira. Representing Bombay Club of Zonta III

Celebrating the 90th anniversary of the 99s with Srilankan Women Pilots at Beruwala, Sri Lanka in 2019

Joining the Movement

For women pilots who are already flying, I believe that it's time for them to pay it forward. Women pilots can share their stories of success, trials, tribulations, and how they went about achieving their dreams. Every Ninety-Nines member is a role model, an ambassador, and a face to reckon with and young girls and boys need to see these role models. Hence we are encouraging women who will bring aviation closer to home.

It's surprising that even today, many Indian families are misinformed about this profession. It is our duty as a community to get rid of these apprehensions, and hence we need women who are flying, to dialogue and spread aviation awareness.

Why Join?

Women pilots in India will get to meet other women pilots across the globe and mutually benefit from each other's experiences. All our members are pilots. Glider pilots, Airline Pilots, Flying School Instructor Pilots, Helicopter Pilots, pilots from NASA, rocket commanders, F-16 pilots, military pilots, seaplane pilots, pilot grandmothers, and youngsters. Ages 15 to 100 years, that's the range of our pilot members. We are headquartered in Oklahoma City, Oklahoma (US), but we all are connected through various mediums and have a friendship that will and has lasted a lifetime.

Sections, Chapters And Work

The Ninety-Nines has a team of over 6700 women pilots from 44 different countries. Just like the world is divided into different sections geographically, the organization is also divided into different sections based on regions or country. These sections are further divided into chapters, and each chapter has a minimum of 5 members. The chapter works independently, under the leadership of the chapter chair, and collectively, the chapters in a region are led by a Section Governor.

Historically, sections outside of North America have not established chapters due to smaller membership numbers. Likewise, India doesn't have any chapters. At the recently concluded annual conference in Charleston, South Carolina (US) it was suggested that the India section too could look into having different chapters, based on the location of its members. But I think at this juncture, we are better off as one section because chapters will in fact divide the members and that won't be practical for our small 40 member team.

Our work is mainly spreading aviation education and awareness, and it's been like this since the time I joined the organization in 1983. I would go with my children to their school and speak to the students. This was specifically important in those days, because unlike the internet today, there was no way for the students to know about it till someone spoke with them. The Ninety-Nines believes "if you can see it, you can be it" and that motivates us to meet and influence the young mind, to show them what possibilities may lie ahead of them.

Smiling faces all, as the India Section 99s meet in New Delhi in July 2022 after a gap of more than two years

The organization awards several scholarships annually through the Amelia Earhart Memorial Scholarship Fund (AEMSF), and some are open for international pilots. Most of them require the applicant to be a member for at least one year in a particular Ninety-Nines section/chapter and to demonstrate her contributions by attending meetings and taking part in section/chapter activities.

These scholarships are for type ratings, which means beneficiaries can go for an Airbus A320 or Boeing 737 endorsement, helicopter ratings, advanced ratings, seaplanes, emergency procedures, along with various others. They can span from the first private pilot certificate through various ratings and certificates.

The last date to apply for the AEMSF scholarships is December 31st . Shortlisted applications are forwarded by the section scholarship chair to the International AEMSF Trustees at the International level. The AEMSF Trustees are assigned with the task of sifting through the hundreds of applications to determine who's in the most financial need of and best qualified for a scholarship. Factors that determine the selection process are: What is the reason to receive a particular scholarship? What does the applicant want to achieve? What are her career goals?

We grant between 20-30 scholarships per year. I recently spoke to a girl in Kathmandu, who received a scholarship for an Airbus 320 type rating. She can now enrol for the course, and the money will be wired directly to the organization conducting the type rating training.

Inspiring Gen next. "If you can see it, you can be it"

Scholarships

How Are We Funded?

L-R International Board member Janet Patton, newly elected International President Robin Hadfield with newly elected Director Nivedita Bhasin at the annual conference in Charleston, South Carolina USA in July 2022

Our organization is funded by internal and external donations. In my case, after being a member for almost 40 years, I opted to purchase a life membership. The annual membership fee is US$ 44 for overseas pilots. To become a life member, we pay a larger sum that is scaled, based on one's age. This amount could range from a few hundred dollars (older members) to a few thousands (younger members).

I can happily say that I have received a lot of friendships from this organization, I made the best of friends and it's time for me to give back. When people like us contribute funds, the AEMSF invests them into a fixed deposit earning them a certain amount of interest. This interest is then used to pay for the AEMSF scholarships that are awarded.

We also organize an annual conference where we raise funds. We have a lot of generous donors, mostly from the US and Canada. With my appointment to the International Board of Directors, we have a platform in India and I hope to see more donations from here.

In the past, we worked in tandem with the Indian Women Pilots Association, which has now diversified into various fields of aviation. The IWPA is a trust and a non-profit organization and because of limited funds, they could only give out scholarship loans that need to be returned in a future date. With the formation of The Ninety-Nines as a separate entity in India, we are ready to work independently and form our own trust. Once the trust is formed, it will help us in setting up our funds and we will be able to receive donations from big firms. We also plan to collaborate with OEMs like Boeing and Airbus to support us in our endeavours.

International Board of Directors

The International Board of Directors has 4 officer positions – President, Vice President, Secretary and Treasurer – along with 4 Directors, plus the Immediate Past President. Being one of the 9 is a matter of huge achievement for me and the Indian community. An Indian has been elected to the 99s International Board of Directors after 40 long years. As an International Director, I have been assigned 3-4 committees to work with, the first one being the AEMSF Trust. I have to attend at least 3 other meetings besides the India section, which means that I will be travelling often to the US and a couple of other destinations in the coming months. This is to show that the International Board is interested in looking after the other Sections and understanding what they do. All this means a lot of responsibility and an opportunity for the Indian section to shine and lead the way.

Women In Indian Aviation Scene

Women have been flying as airline pilots in India since 1966 (Capt. Durba Banerjee) and thankfully the ecosystems have evolved to allow girls to slip into this role more easily. The one thing I'm most worried about is the mindset of the people. There are still families who won't allow their children to be a pilot. Parents need to be counselled to let their children follow their dreams.

When I wanted to start flying in the late 1970s, my parents never questioned my belief. I was never told that this profession is for men. Because I didn't experience this 50 years back, it surprises me when I hear about it now. Our job is to educate our children so they can take good, informed decisions. This way the children learn to become independent and the parents don't need to become overbearing.

"Conquering the Skies" literally as Capt. Nivedita Bhasin retires after a glorious 37 year career as an Airline Pilot and the Chief of Flight Safety, Air India, July 2021

When Capt. Nivedita Bhasin and First Officer Rachna Suri flew to Vizag on an All women crew flight on the B737 in 1991

In the last 40 years of my airline career, I have seen women break all stereotypes. In Airlines, from single digits, now we are hundreds of women pilots in each airline and growing. The confidence of both the woman as a pilot and her male counterpart to accept her as a pilot has gone up by leaps and bounds. Women are more confident and comfortable, and their colleagues are accepting women more easily. Discrimination and harassment against women have declined. Earlier we were sometimes called aggressive, but with the passage of time, this is slowly changing to being assertive. Female pilots today are not just contented to be the Captain, instead, we see them in more engaging roles of trainers, examiners, executive directors and also the chief of flight safety.

What Improvements Can Be Made?

Our industry needs to have better maternity policies for women. When I joined the airline, there was no maternity policy, there was no leave at all. The maternity policy was formulated in the early 1990s. Airlines may like to provide a facility for day care centres and creches where young toddlers and children can be looked after. New pilot mothers can also be given ground jobs for some time after delivery of the baby to look after the infant. Some airlines have a good policy where they allow mothers to be on maternity leave for a few months and they also assist with rostering them with short flights thereafter. These small and thoughtful steps go a long way in keeping these young mothers happy and contented.

Family support, especially from the spouse is vital. Flying is quite a stressful profession and when the family pitches in, it will go a long way toward a stable career.

An ultimate dream of mine is to see young girls and women join space organizations.

The first All Women Crew Flight in the world 1985
L-R Karobi Pathak, first officer Nivedita Bhasin, Capt. Saudamini Deshmukh, Rita Roychoudhry , on the Fokker Friendship F27

About Me

Commanding the Wide bodied A300 of Indian Airlines 1997

It's been a beautiful journey for me. I started very young and became the youngest woman pilot in the world to command a passenger jet aircraft at the age of 26. Throughout my career, with Indian Airlines and Air India, I got the opportunity to fly the best aircraft to every corner of the world. I was also privileged to be on the world's first All women's Crew flight.

From Fokker Friendship F27 as a co-pilot I transitioned to a captain on Boeing B737, Training Captain on Airbus A300 and A330, and Type Rated Instructor on Boeing 787 Dreamliner. I joined as a trainee pilot in 1984 and superannuated as the Executive Director of Flight Safety & Chief of Flight Safety, Air India in 2021. And I take pride in the fact of having had an unblemished accident and incident-free safety record.

My heart fills with gratitude to see my children follow in my footsteps. They have seen their mother work hard, receive accolades, face difficult situations, struggle through life, and maintain a work-life balance. From my mother, I learned to be resilient and persevering. My father taught me to be truthful, honest and sincere. These are my strengths and have carried me through all the ups and downs of my life. Dedication, Determination and Discipline – the 3 Ds help me cruise through life.

During my Airline career, I indulged myself in a lot of sports and outdoor activities. I played Golf, swam extensively, learnt photography, and practised Iyengar Yoga. I enjoy hiking. I climbed Mt. Fuji and trekked in the Himalayas. I have done wing-walking (walking on a Bi-plane's wing, while in flight), sky-diving and I'm a PADI-qualified deep sea diver as well. And I look forward to various adventures which will unfold in my retired life.

Nivedita with her husband and children, all Airline Captains. 2017

Operation Safe Homecoming

Evacuation Flights from Libya

Launched on 26 February 2011, Air India operated flights from Delhi, India to Tripoli, Libya with one Airbus A330 and a Boeing B747 Jumbo. I flew the A330 at that time. Overnight we had to start operations and generate flight plans, check the route, and logistics, organise crew and also plan for any eventualities. There were many threats and it was unknown territory. At that time several Air India pilots were on strike and there were very few pilots who were flying. This was in February 2011.

The Tripoli Airport had very basic navigational facilities and uncertainty loomed largely. We would spend hours on the ground at Tripoli, not knowing when we could return to India, as we were dependent on the Indian passengers being released by the Embassy in Tripoli.

But once entrusted with the task ahead of us, we swung into action. We were in constant touch with the Ministry of External Affairs and the Indian Consulate in Tripoli. It was a mammoth task and we succeeded in bringing back almost 16,000 Indians safely home from Tripoli and Sabha.

I fondly recall a very nostalgic moment from that trip when after landing, a cabin crew member came and said that there was somebody who was waiting to see me. I went back to find an old lady with tears in her eyes, it was as if she knew me but I struggled to recall. She hugged me and broke down instantly, thanking me for bringing her back safely. After some time, she said I'm your next-door neighbour from Calcutta. I got goosebumps. She used to be a professor, who was teaching English in Tripoli.

It was indeed a warm homecoming!

Air India's A330 on its first evacuation flight at Tripoli International Airport February 2011

Electric Vertical Take-off and Landing Aircraft (eVTOL)

Jaunt Air Mobility

(Venkat) Chittur Venkatasubban
Ph.D., F.R.Ae.S
Jaunt Air Mobility

In the next five years, the world and the public at large will witness one of the most significant revolutions in aviation history since the advent of the of the Jet Age in the 1960s. Novel eVTOL transports, unlike any aircraft seen so far, will make their presence felt in the skies over major metropolises such as London, Paris, Moscow, Berlin, Los Angeles, Dallas-Fort Worth, Beijing, Bengaluru, Chennai, Mumbai, Melbourne, Montreal, Shanghai, Singapore, Kuala Lumpur, Rio de Janeiro, and Sao Paulo. Moving passengers between locations in business districts or to and from airports and metro stations, these aircraft will rise vertically like helicopters, then transition to high-speed forward flight, bypassing congested roads and reaching their destinations in a fraction of the time normally taken by conventional means. Powered by advanced electric motors, they will be green and whisper quiet. This article presents an overview of this exciting new mode of transportation coming soon to India, holding huge economic opportunities for users, operators, and the cities they will serve.

Introduction

I have been fortunate in having some unforgettable opportunities to fly in several unique aircraft that both predated and ushered in the Jet Age. Air-India's beautiful Lockheed Super Constellation long range propeller aircraft are a distant but still vibrant memory. So were the same airline's new fleet of gleaming Boeing 707 jets introduced in the 1960's that made it Asia's first all-jet airline. British Overseas Airways Corporation's Comet-4 and VC-10 were two other incredibly graceful jet airliners that were indeed a joy to fly in.

Decades later, I feel lucky to have a front row seat in yet another aviation revolution, this time through my involvement in the design of the Journey eVTOL air taxi. Currently under intensive development at Jaunt Air Mobility, the Journey will be part of a vast network of aircraft and operators offering on-demand AAM-Advanced Air Mobility services like the mobile app-based ride share services that have been a boon to customers since their introduction just over a decade ago. The infrastructure required for efficient AAM operations is being planned now through close cooperation among numerous stakeholders: aircraft manufacturers, certification authorities, air traffic administrators, city administrations, and other local governments.

The AAM industry is poised to grow rapidly, according to marketing studies by major consulting firms like Morgan Stanley, Deloitte, and Booz Allen, from about 1,500 aircraft when they are first introduced in 2025 to about 28,000 by 2035. This will create an industry valued at about US$287 billion by 2035, and US$1.5 Trillion by 2040. This tremendous potential has attracted several of the most well-known aircraft manufacturers such as Airbus, Boeing, and Bell, all of whom are currently developing eVTOL aircraft for the market. Several other companies possessing formidable technical resources, notably Archer, Joby, Lilium, and Wisk, have also entered this field with products of their own under development.

Jaunt's Unique Technology

A feature common to eVTOL aircraft is the use of DEP-Distributed Electric Propulsion technology. Recent developments in powerful and lightweight electric motors have made them ideal for aircraft propulsion. Advances in battery technology have also made short-range, all-electric aircraft a practical, environmentally friendly, and low noise alternative to those powered by fossil fuels. Most of the eVTOLs currently under development feature the use of multiple rotors to provide the thrust required to lift the aircraft vertically. For cruise, they either tilt the rotors forward to provide propulsion, or stop the lifting rotors and use separate propellers, in almost all cases using a fixed wing to provide lift. DEP makes it practical to turn multiple electric motors using a remotely located power source such as a battery. In contrast, traditional turbine based mechanical propulsion would require the use of complex and heavy gearboxes to similarly transfer power, making it impractical.

Jaunt also uses DEP to power the four forward propulsors. It is however unique among eVTOL's in using only a single large main rotor driven by multiple electric motors to provide vertical lift. The large rotor allows the Journey to hover like a helicopter at a fraction of the power needed by its competitors, thus saving in energy and battery weight. In cruise, the main rotor is slowed down and the lift needed to support the aircraft is largely provided by the wings.

In the rare case of total power failure, the Journey can safely land by autorotating the main rotor just like a helicopter. The Journey thus combines the best features of a traditional helicopter (hovering, vertical flight) and a fixed wing aircraft (efficient high speed). None of Jaunt's competitors have the ability to autorotate and must therefore rely on multiple redundant systems in an emergency.

In the case of Jaunt's Journey, the certification path is clear, as the Journey is a rotorcraft, which falls under the helicopter category. Jaunt intends to initially certify to the Canadian CAR 529 regulations, with necessary sections from CAR 523 for the wing. Protected by numerous patents covering major aspects of eVTOL technology, Jaunt's Journey is arguably the safest eVTOL aircraft currently under development.

Unique features of the Jaunt Journey, four passenger Compound Wing eVTOL Aircraft

Jaunt Air Mobility Background

Jaunt was co-founded in 2019 by **Martin Peryea**, who had a distinguished tenure of over three decades with Bell Helicopter, serving as VP of Commercial Engineering, and Chief Engineer of its flagship Bell-525, helicopter program. Prior to founding Jaunt, he was VP of Engineering at Triumph Aerospace Structures. Jaunt is head-quartered in Dallas, Texas, with operations in Montreal, Quebec, Canada.

Since its founding, Jaunt has brought on board highly qualified professionals with decades of experience in industry and the US Armed Forces, dedicated to ensuring the design, development, certification, and timely entry into service of the Journey by late 2026. Jaunt has agreements with major OEM's and Tier-1 suppliers such as BAE Systems for design, manufacture, and assembly of the battery and flight control systems, and CAE for development of the engineering simulator which will greatly aid overall test and certification timelines.

Jaunt has recently become a part of The AIRO Group chaired by Dr. Chirinjeev Kathuria. AIRO brings together highly respected firms in the Air Mobility, Autonomous Drones, Advanced Avionics, and Training domains to address the multi-faceted needs of the aerospace & defense sectors.

Jaunt Journey Roadmap

Jaunt Tech Demonstrator (JTD)
2020 (Q4)

Jaunt Journey
2023 (Q1)

Jaunt's CEO Martin Peryea (3rd from left), with The Honourable Jyotiraditya Madhavrao Scindia (India's Minister for Civil Aviation), and His Excellency Ajay Bisaria (Indian High Commissioner to Canada).

Jaunt in India

Jaunt's CEO, Martin Peryea, has significant previous experience working in India, guiding the activities of Bell's Engineering Development Center in Bengaluru. Jaunt is exploring the possibility of future manufacturing, marketing, maintenance & pilot training activities in India under the Make-In-India initiative of the Government of India. Mr. Peryea recently had the honor of meeting with Mr. Jyotiraditya Scindia, India's Minister for Civil Aviation.

Indian company LTTS (*Larsen and Toubro Technical Services*) will be providing critical engineering support to Jaunt. Jaunt also intends to widen its footprint in India to support local requirements, including export to neighboring countries in the region. Jaunt is keenly looking forward to a mutually beneficial, multi-dimensional engagement with the Government, Transportation Authorities, Certification Authorities, and leading aerospace firms in India.

About the Author

Dr. Venkatasubban, has over 40 years' experience as an aircraft designer in India, USA, and Canada, at HAL, Bombardier, Raytheon-Hawker-Beechcraft, Bell Helicopter, CIRRUS Aircraft, Terrafugia, and Jaunt Air Mobility. He is a *Fellow of The Royal Aeronautical Society* of the UK, a *Raytheon Engineering Fellow*, and a *Hawker-Beechcraft Engineering Fellow*. Dr. Venkatasubban has a M.Sc. (Aerodynamics) from the *College of Aeronautics* at Cranfield University in the UK, and a joint Ph.D. (Computational Aerodynamics) from the CERT-ONERA (*French Aeronautics & Space Research Administration*) and I.S.A.E. Sup'Aero (*French National Institute for Advanced Study in Aeronautics and Space*), Toulouse, France. Venkat can be reached at cvenkat@jauntairmobility.com

PCK

(Pee-Cee-Kay)

Capt. Peeush Kumar
TRE H145

© Abhishek Singh

Feeder Organizations

Helicopter operators in Indian civil aviation have a predominant dependency on veteran pilots from Indian armed forces. These 'feeder' organizations offer trained, experienced crew to civil market in a win-win situation. In contextual time period, skills developed on public fund may ultimately be sub-optimally deployed in respective parent organisation for some individuals. Resulting arrangement therefore becomes beneficial for employers, individuals and just the right deployment of an expensive skill.

Obvious strings attached with armed forces in Indian civil helicopter fleet(s) has therefore biased title of subject. 'PCK' is an acronym for 'Previous Course Knowledge' from armed forces colloquialism. It involves handing down 'friendly' information about military training courses to incoming batch(es) by outgoing batch(es). Back in the days it was intended to secure better performance for some and helping avoid pot-holes for others. Intent of this article orients around the same theme. Deemed information of value for pilots stepping fresh into the civil helicopter world is attempted to assist individual choices, and smoother blending into a new domain. Information is catalogued under operational and administrative verticals.

© Jatin Singh

Employer Selection

Individuals approaching potential employers should ideally be biased for an environment with higher standards of flight safety as applicant. Researching on potential employers could surface facets for an adequately informed opinion. It is normal for base-line/entry-level pilots to have limited salary negotiating leverage. However, duty cycle, leave entitlement, remunerations - how much and when, increment intervals, accommodation standards (if provided by company) and travelling arrangements should be established before signing on the dotted line. 'Training Bond' is a reasonable retention tool with an employer to safeguard expenses made on type rating for fresh pilots. This bond is necessarily bounded by a time period against a sum that could be levied on employee leaving the company short of stated period. On the other hand, unreasonable claim found by courts wrt to actual expenses by employer could be reduced to a 'rational' reimbursement; loosely a pro-rata figure. Finally, it should be known that protection of signatory's interests is restricted to statements of contract/agreement.

Induction training on joining the company presents adequate opportunities to understand channels of routine interactions. Company's 'Operations Manual' contains all that needs to be known to set the ball rolling. The document includes organizational set up, list of supporting documents, operational framework of each aircraft type of the company, standard operating procedures, training elements and responsibilities of crew members. Operational information bulletin (OIB) in addition, is a supplement for operational practices of minor nature not necessitated in 'Operations Manual'. This one helps the crew keep abreast of updated recommendations and nuances of routine operations.

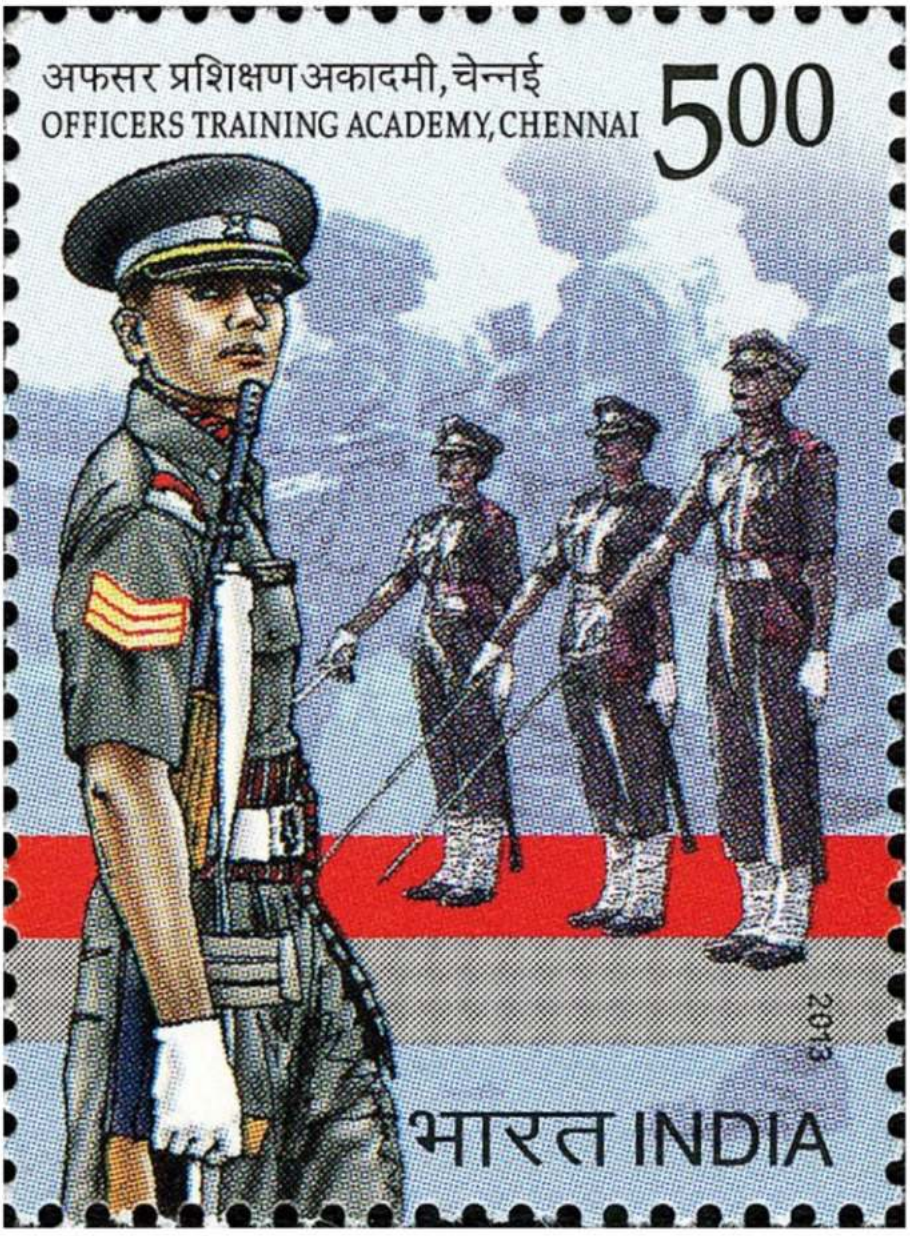
Regulations

Regulations of civil aviation are governed by DGCA. Familiarisation with 'Breath Analyzer Examination' (CAR Section 5, series F, Part III), 'Flight/Duty Time limits' (CAR Section 7, series J, Part II), 'Training/checks, currency requirements' (CAR Section 8, series H, Part II), and scope of operations (CAR Section 8, series O, Part IV/V) is recommended to be set on a correct course. AIPs (Aeronautical Information Publications), ENR-1.3 on operations under IFR, and ENR-1.2 for VFR found at https://aim-india.aai.aero/ may be sufficient at the beginning.

Maintaining update with revised regulations avoids inadvertent non-compliances and/or unpleasant consequences. Crew deployed in field are company's front desk entrusted with reasonable on-the-spot decisions. Knowledge of regulations and procedures facilitates sound decision making especially under circumstances that do not permit referrals to documents, or leaning on company's 'wise owls' over telephone. Knowledge base of relevance is therefore a must for picking up a safe, legally compliant option in a typical working environment by pilots.

Lessons From Armed Forces

Excellent lessons from armed forces of revisiting cockpit emergency procedures, CRM aspects, aeronautical decision making, familiarity with local operational environment complements value addition irrespective of station occupied in a cockpit. Interactions with clients however, may be a different plane for some and a possible grey area. Nevertheless, philosophy of serving clients through aviation can possibly offer an acceptable general orientation for willing individuals. Quality of service to clients in aviation also depends on displayed attitude during human interaction, as in any other business. Customer experience is thus a perceived value significantly affected through cockpit crew. Pilots with an understanding of their role for enhanced customer experience would consistently be enviable assets to any employer.



Armed forces veterans have sufficient insight of professional hazards in aviation sector. An adequate cover of insurance to secure prevalent lifestyle, future and children's education must form part of individual's essential expenditure. Though completely an individual's choice, a cover beyond company's offerings of health and accident insurance must be considered. In addition, investment in a term insurance of repute shall provide required peace of mind to meet all unforeseen eventualities.

As with any PCK, a statutory disclaimer clears author from repercussions of upsets. Need for offering aforesaid inputs surfaced from repeated answers offered to fresh veteran pilots often limited to acquaintances. Emerging need for a wider reach was the motive force to consolidate the scatter for making recommendations.

About the Author

Capt. Peeush Kumar is a certified experimental test pilot for rotary wing aircrafts and a Type Rating Examiner on H145 (M/s Airbus) helicopter. Currently working for a non-scheduled category operator, he has a flying experience on more than 20+ helicopters and airplanes. His solo initiative @ IndianRotors.in has active support of Rotary Wing Society of India (RWSI). Presently pursuing PBN (Performance Based Navigation) based helicopter operations in India, Capt. Peeush can be reached at Peeush_Saini@yahoo.co.in.

100 KNOTS
For advertising, queries and suggestions
mail: editor@100knots.com