

CIVIL AVIATION TRAINING INSTITUTE HYDERABAD

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OINSIDE

From Waste to Wings Sustainable Aviation Fuel

A Journey through Pakistan's Aviation History

Charaagh se Charaagh jalta hai

Elevating Aviation Engineers' Excellence

Independence day Celebrations at CATI

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From The Editor's Desk

Dear Readers,

I am delighted to present the latest edition of our quarterly periodical, underscoring our commitment to keeping you well-informed and engaged in the dynamic realm of aviation. in this edition, you will find two featured articles. One highlights forthcoming innovations supporting eco-friendly aviation, while the other delves into the region's aviation history, providing a captivating journey back to its origins.

Our primary focus in the article "Waste to Wings" is on Sustainable Aviation Fuel (SAF). Amidst the challenges of a dynamic world, we explore how the aviation industry contributes to decarbonizing aviation by adopting alternative fuel systems, while keeping intact the safety of our aircraft.

The article titled "Wings of Time" takes you on an enthralling expedition through Pakistan's Aviation History. This article, aptly named "Black Hangar – commonly known by locals as Kala Chapra," inaugurates a series promising more insightful articles about the rich history of aviation in Pakistan in future issues.

Additionally, we are excited to share highlights from the 8th Experience Sharing Event and a comprehensive full-day Seminar on Continuing Professional Development (CPD). These events provide vibrant platforms, uniting the brightest minds in aviation, fostering the exchange of knowledge and expertise that propels our industry forward.

This edition also reflects on two significant events at CATI in the third quarter of 2023: the spirited celebration of "Independence Day" and the reverent observance of the birth of our Holy Prophet during "Maulood-e-Nabi Milad."

We trust that you will find this issue both informative and engaging. Your valuable feedback and ideas for future editions are eagerly awaited, as your support and readership are instrumental in propelling us forward on this continually learning journey. We extend a warm invitation to our esteemed readers to contribute articles, of 1,500 – 2,000 words, enabling us to showcase your insights and experiences.

Thank you for being an integral part of the aviation community.

Happy reading.

With Regards,

Nawaz Ahmed Sipra, Chief Editor



FROM WASTE TO WINGS SUSTAINABLE AVIATION FUEL

DE-CARBONISING THE AVIATION INDUSTRY

In March 2023, the U.S. Government Accountability Office released a report on SAF, which recommended that federal agencies should track progress toward ambitious federal goals for SAF production and use. In June 2023, the World Economic Forum announced its annual list of breakthrough technologies with the greatest potential to make a positive impact on the world. One of the technologies on the list was sustainable aviation fuel, which was recognized for its role in powering a sustainable, clean-energy future. Boeing is aiming to purchase 4.8million gallons of SAF by 2023. So why SAF is becoming important for the world? the answer is "reduced carbon emissions"

Background: Aviation industry is dependent

Background: Aviation industry is dependent on Jet Fuel because of its unique energy density. However, with the industry projected to double in size, reaching nearly 8 billion passengers by 2050, there are growing concerns regarding carbon footprint and its impact on the environment.

To address these concerns, several companies are developing Sustainable Aviation Fuels using various sources of Advanced Biofuels and Renewable Fuels of Non-Biological Origins (RFNBOs). These fuels are mixed with traditional aviation fuel and undergo testing and certification to be recertified as 'Jet-A' or 'Jet-A1' fuel, readily available for transportation and use.



ICAO & SAF: ICAO facilitates production of SAF through four mainstreams.

1. Global Standards

Under the umbrella of CORSIA (Carbon Off-setting Reduction Scheme for International Aviation), ICAO has set standards for Low Carbon Fuels and Life cycle methodologies. 126 states have voluntarily become part of ICAOs CORSIA program.

Sustainable Aviation Fuel (SAF) is made mostly from sustainable feedstocks such as cooking oil, animal waste oil, solid waste from homes and businesses such as packaging, paper, textiles and food scraps which otherwise go to landfills or incineration. Use of SAF can make a profound reduction of up to 80% in carbon emissions as compared to traditional Jet fuel.

2. ICAO's LTAG

ICAO's Long-Term Global Aspirational Goal (LTAG) aims to achieve net-zero carbon emissions in international aviation. To meet this objective, the organization has identified three key factors: technical, operational, and fuel-related measures. Among these, SAF (Sustainable Aviation Fuel) stands out as the most promising solution for reducing the carbon footprint in the aviation sector.

The use of three types of fuels - SAF, LCAF, and non-drop fuels such as hydrogen or electricity - is proposed by the report to achieve this ambitious objective. SAF production is expected to meet aviation demand by 2044,



based on factors such as feedstock availability, cost, and CO2 reduction. By 2050, CO2 reductions may reach up to 50%, and potentially 88% by 2070.

3. ICAO's Assistance, Capacity-building & Training for SAF (ACT-SAF) program supports the transition to sustainable aviation fuels. Currently, 89 states are involved in this program, which provides guidance on conducting feasibility studies, identifying priority pathways for SAF production, and offering recommendations on an action plan.



4. Outreach and Information

ICAO is continuously monitoring, stocktacking and publishing data on SAF tracking tools, SAF guide and Global Framework.







107 airports distributing SAF

11 approved Conversion processes

42 Feedstock Recognised Under ICAO

Challenges: One of the significant challenges associated with Sustainable Aviation Fuel (SAF) is its production cost, which is up to 4 times higher than traditional jet fuel. However, some recent advancements, such as the utilization of human waste to create standard fuel, have been promising. Nevertheless, continuous production, supply, and regulatory approvals necessitate long-term development and investment in the infrastructure to ensure the steady supply of feedstock to production plants at an industrial scale.

A single passenger on return flight between Islamabad and Karachi, using traditional Jet Fuel, roughly contributes 11,000 Kg of fuel burn translating to approximately 220 Kg of CO2 emissions.

Pakistan and SAF: Pakistan is undoubtedly one the most climate stricken countries. Pakistan is also the fifth-largest population globally, presenting a unique opportunity to invest in feedstock harvesting. We can install feedstock collection facilities in major cities like Karachi, Lahore, Hyderabad. Pakistan currently struggles in waste management measures. This waste could lead to the production of biofuels for SAF consumption while also opening the possibility for Pakistan to export feedstock to other countries. By utilizing our waste products, we can generate foreign exchange, thus making efficient use of our waste by turning it into a resource. Becoming the part of ICAOs ACT-SAF program, we can play an active role saving our environment.

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WINGS OF TIME: A Journey through Pakistan's Aviation History

Black Hanger- the lost Aviation Heritage (Kala Chapra at Karachi Airport)

Zia Ullah Sheikh, FCILT Ex Senior Air Traffic Controller / Ex Senior Instructor ATS

Karachi remains a crucial link in this air transport chain by the British Empire to keep it united as the Royal Air force's Drigh Airfield (Now PAF Base Faisal) and Karachi Aerodrome as important support facility were available in the area.

> Preparations were made years in advance to accommodate the giant airship. Three large hangars were constructed in the world to house it and one of those was in Karachi (which became known as Kala Chapra to the locals). The construction of hanger commenced in 1927 and completed in August 1929.



Lieutenant-Commander H W Watt, attached with the Royal Airship Works, Cardington, for training to take charge of, aero planes and Airships at Karachi which was under the administrative control of the Government of Royal India. In August 1929 He took up all the British Aviation setup at Karachi by appointment as the Chief Aerodrome Officer Karachi and also to make all of the local arrangements for the forthcoming India flight of R 101.



Main Railway track from Karachi to Peshawar passes close to the site of hanger for Airship. The Railway station closed to the hanger was named as Air ship in the 1920s before the Karachi airport was built. Later its name was changed to Airport Halt, the station now a days is simply called 'Airport'. Even today, the road which connects Shahrah-e-Faisal and Gulistan-e-Johar is called the Kala Chapra road by some old-timers, and the local bus stop on main Shahrah-e-Faisal still goes by the same name KALA CHAPRA.



In 1952, the Government of Pakistan decided to bring down the black hanger but the structure managed to survive till 1960 when it was finally agreed to proceed with dismantling and steel was used on Railway structures and bridges across Pakistan. This brought an end to this unique piece of civil engineering in Pakistan and become part of aviation history. Presently this area is under the use of PIA Precision Engineering complex at Karachi Airport.







CHARAAGH SAY CHARAAGH JALTAA HAI

Illuminating Pathways from the Experiences of the Experienced

Amid the serene atmosphere of CATI Hyderabad, the 8° Experience Sharing Platform (ESP) unfolded on September 2". 2023. Evolving into a harmonious convergence of wisdom and inspiration, the event brought together aviation leaders, guests, and enthusiastic participants on a shared journey. Their objective was to share valuable insights, ignite motivation, and foster an enduring passion for knowledge and development. The session witnessed a noteworthy gathering of aviation enthusiasts, trainees, educators, and officials both from HQCAA and airports, creating a vibrant and memorable event. Additionally, this gathering provided a meaningful platform for the current and future managers, offering them the opportunity to meet and glean wisdom from wealth of experience of their retired leaders. The event received the esteemed presence of Air Vice Marshal Jamal Arshad, the former Additional Director General of the Pakistan Civil Aviation Authority, the not only graced the occasion as the Chief Guest but also took the stage as a keynote speaker. Alongside him were two other notable retired figures in the aviation industry, who have made significant contributions to the growth and development of civil aviation in Pakistan: Kr. N A Jaferi, the former Director of CAA, and Mr. Zahid Hussain Khan, also a former Director of CAA, The trio, with their extensive expertise and

It has been a tradition of each ESP, to pay a collective tribute to our colleagues who have departed this world for their eternal abode. It ESP-8, we commemorated the following office - Mr. Tariq Mehmood (Ex-DCATI)

· Mr. Ishtiaq Ahmed (Ex- Sr. Additional Director RFFS · Mr. Muhammad Ibraheem (Ex- Sr. Supdt.)

(ESP), Director of CATI, Mr. Sumair Saeed, extended heartfelt gratitude to the Chief Guest, Air Vice Marshal Jamal Arshad, and other esteemed keynote speakers for enriching th sudience with their invaluable experiences. Reflecting on the mind-blowing insights shared during the event, Mr. Saeed reaffirmed his unwavering commitment to instigating positive transformations within CATI. He expressed enthusiasm for the continuation of such impactful and ruitful events, aiming to foster continuous learning and growth within the aviation community the Director's closing remarks resonated with the spirit of collaboration, knowledge exchange and the collective pursuit of excellence that characterized the entire ESP gathering, leaving an inocipien and bathing impression on all participants.

In a moment brimming with pride and enthusiasm, Mr. Sumair Saeed, Director of CATI, inaugurated the highly anticipated 8th Experience Sharing Platform (ESP). He warmly welcomed esteemed keynote speakers and the enthusiastic audience. In his

opening remarks, he expressed deep appreciation, stating, "As the Director of CATI, it brings me immense pleasure to extend a wholehearted welcome to our distinguished guests who have graced this momentous occasion. We are honored to have Air Vice Marshal Jamal Arshad, former Additional Director General of Palistan Civil Aviation Authority, as our esteemed Chief Guest. His exemplary leadership, extensive experience, and dedication to the aviation industry have left an indelible mark. Furthermore, I welcome Mr N A Jaferi, and Mr. Zahid Hussain Khan former Directors of CAA, both celebrated for their significant contributions. Their competence, methodical approach, and deciated work ethic have greatly advanced the Civil Aviation Authority." We express our sincere gratitude to these keynotes speakers for sharing their invaluable experiences and enlightening presentations, and fostering collaboration within the aviation

Mr. N.A. Jaffery, a distinguished Air Tarfit Controller, has significantly influenced the aviation industry through key roles like Directo of Operations and Director of CATI in Pakista CAA. Renowned for pragmatic decision-making, his recent speech coverec CAAS history and current management

challenges, emphasizing effective training and learning from seasoned professionals. Stressing the irreplaceable nature of situational handling techniques, he underscored the need for in-depth knowledge and adherence to rules in managerial decisions. In addressing conflicts, Mr. Jaffery advocated an open-minded and compassionate approach, asserting kindness is more effective than rigidity. He prioritized organizational benefit in leadership, even if it contradicts personal preferences. Towards the end, he further advocated shielding employees from punitive actions against inadvertent mistakes, fostering value and ownership for enhanced morale. He also emphasized the importance of collaboration with other agencies. His insightful speech offers a fresh perspective on management, poised for personal and professional growth through these strategies. Mr. Jaffery not only showcased expertise but also provided invaluable guidance on effective management and conflict resolution, earning admiration

Huse and vario c d

In his esteemed career, Mr. Zahid Hussain, a seasoned Air Traffic Controlle and renowned ATS instructor, he various roles, showcasing impeccab expertise. Addressing the audience, highlighted challenges faced by CAA

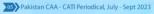
wide-bodied aircraft and the subsequent surge in air traffic. During this period, the existing Air Traffic Contro (ATC) and technological facilities within the Civil Avaitor Authority (CAA) struggled to cope with the escalating volume of air traffic. Notably, the coverage of Very High Frequency (VHF) communication was unreliable prompting reliance on High-Frequency (HF) communication through HF operators. Mr. Hussair emphasized the critical importance of never making assumptions, particularly in the domain of ATC. He underscored the necessity for competency-based training, the establishment of a structured framework for Unmanned Aerial Vehicle (UAV) flying, and the implementation of refresher training programs. His thought-provoking speech delved into various aspects of ATC, addressing the intricate tasks involved. This encompassed the challenges posed by the introduction of new aircraft, the limitations of existing communication systems, and the indispensable need for ongoing training and competency assessments in the

ever-evolving field of air traffic control. The saudience greatly appreciated the insightful had and comprehensive nature of Mr. Hussain's presentation.

ling a team with a diverse mix of Experience Sharing Platform (ESP), the session , Mr. Arshad underscored the underliably honored its commitment, guiding he highlighted the role of articipants through a captivating odyssey enriched by the control of the properties of the properties

stand as indispensable pillars in enhancing our understanding of various subjects, serving a poignant reminders of the significance of consistently organizing similar events in the future. Through these endeavors, we ensure enduring growth and continued learning for all those involved. Beyond being educational opportunities, such gatherings become moments of inspiration, fostering a sense community and shared knowledge that transcends the event itself. In conclusion, the 8th ESP resoundingl achieved its mission, leaving an enduring impression on the attendees and reinforcing the importance of perpetuating these valuable gatherings to promote ongoing growth and learning. As we bid farewell toy another successful platform, we eagerly articipate the continued impact and inspiration it will impart echoing the sentiments of shared knowledge and community spirit long after the event has concluded.







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Independence day Celebrations at CATI

The spirit of patriotism soared high at the Civil Aviation Training Institute (CATI) as the 76th anniversary of Pakistan's independence was celebrated in a ceremony filled with pride, unity, and reverence on 14th August 2023. On this auspicious occasion, employees of CATI and their families, alongside their children, gathered to pay tribute to the cherished day of freedom. The event commenced with a solemn flag hoisting ceremony and reading out the message of DGCAA on the occasion. The stirring notes of the national anthem echoed through the auditorium, uniting the audience in a shared appreciation of the motherland and its cherished freedom. It was a moment that encapsulated the

essence of being Pakistani. The heart-warming celebrations continued with a carefully planned program that featured patriotic anthems and national songs. The audience was treated to the voices of national heroes like Quaid-e-Azam and Allama Igbal, whose inspirational speeches enthused the deepest sentiments of love and devotion to Pakistan. The highlight of the celebration was a spirited quiz for the children. Young minds engaged in a friendly competition, demonstrating their knowledge of Pakistan's history, culture, and heroes. The winners were recognized and applauded, instilling a sense of pride and accomplishment in the youth. As the event concluded, the echoes of applause and the warmth of shared experiences lingered, leaving a lasting impression on everyone present. The celebration of Pakistan's 76th Independence Day at CATI was a heart-warming and unforgettable event.





at CATI صلى عَلَيْهِمُ Observance of Milad un Nabi

On September 28, 2023, the Civil Aviation Training Institute (CATI) was filled with devotion and reverence as it celebrated Eid Milad Un Nabi, a significant event in the Islamic calendar. The day was marked by a special Mehfil-e-Milad, a religious gathering where scholars and attendees gathered to honor and reflect upon the life and teachings of the Holy Prophet Muhammad (peace be upon him). The entire CATI premises were beautifully illuminated for this auspicious occasion. The Mehfil Milad was a serene and spiritual affair, creating an atmosphere of tranquility and unity. Renowned religious scholars graced the event, delivering meaningful sermons and reciting Hamd (praise) and Naat (poetry praising the Prophet) to inspire everyone present. The

occasion was a heartfelt opportunity for reflection and celebration, bringing together the CATI community in a spirit of shared reverence. Attendees, including both staff and students, soaked in the peaceful ambiance, gaining insights into the teachings of the Prophet and fostering a sense of unity. CATI's commitment to acknowledging and celebrating significant cultural and religious events was evident in the sincere observance of Eid Milad Un Nabi. The event provided a meaningful pause in the daily routine, allowing for spiritual enrichment and a collective celebration of the Prophet's legacy. The illuminated CATI campus reflected not only the physical light but also the illumination of hearts and minds during this special occasion.

News & Snippets

CATI has initiated upgrading its mosque facilities, concentrating on enhancing the prayer area, improving ablution facilities, and installing a modern Public Address System (PAS). This effort aims to establish a more comfortable and inviting space, accommodating a larger number of Namazis for prayers. Upon project completion, Namazis will enjoy a tranquil mosque ambiance, with a serene and spiritually enriching experience.

Exciting News! CATI is revamping its cafeteria for a fresh look and an expanded menu. Anticipate a vibrant space offering a variety of snacks, tea, coffee, and juices. This upgrade will ensure a more delightful experience, providing an enhanced selection to its guests. Stay tuned for the unveiling of a revitalized cafeteria, where tasty treats meet a welcoming ambiance for our trainees and staff.

CATI is in the process of establishing a new volleyball court near the sports complex and Officers Club. This initiative is designed for both trainees and staff, aiming to enhance physical well-being and provide a healthy work-life balance. Positioned amidst these recreational hubs, the forthcoming court will encourage community engagement, offering a positive outlet for physical activities. Anticipated benefits include fostering a dynamic environment, contributing to the overall well-being of our trainees and staff.

- Activities Planned For 4th Quarter 2023:
- 07-11-2023: 7th CPD on the topic
- "Building Team Excellence"
- 07-12-2023: 9th Experience Sharing Platform (ESP)

Nawaz Ahmed Sipra - Chief Editor

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