



KERIS

TERBANG

ISSUE 19 (JULY - SEPTEMBER 2024)



04

KERIS TERBANG ISSUE 19

JULY - SEP 2024

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EDITOR-IN-CHIEF'S REMARKS

Welcome to Issue 19 of Keris Terbang! This edition highlights the dynamic achievements and developments within the RBAirF, reflecting our relentless pursuit of excellence.

We celebrated His Majesty's 78th Birthday with pride, alongside notable accomplishments like our gold medalist in fencing and the 1st Place *Tilawah* winner. We also hosted esteemed visits from CAF RMAF and CAF IDAF.

With advancements in VR flying training, drone jammer courses, and insights into air superiority, this issue delves into innovations shaping our future. We also emphasise safety, with highlights from Flight Safety Day and Motorcycle Safety campaigns.

May these accounts inspire us towards excellence and happy reading!

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A MARCH OF LOYALTY

CELEBRATING HIS MAJESTY'S 78TH BIRTHDAY

By Cpt (U) Pg Md Hassanal



Participating as a contingent commander in the Grand Parade for His Majesty the Sultan of Brunei's 78th Birthday celebration was one of the most honorable moments of my career. This national celebration, held at Taman Haji Sir Muda Omar 'Ali Saifuddien, brought together citizens from all corners of Brunei to demonstrate their love and loyalty to the monarch. The beautifully decorated capital came alive as thousands filled the streets with patriotic spirit, making this not just a parade but a heartfelt manifestation of unity.

Preparation for this momentous day started weeks ahead, with rehearsals set two weeks prior to ensure our drills were immaculate. As a member of the Royal Brunei Air Force, our core values of "Service Above Self, Teamwork, and Excellence" guided me throughout. My focus was not only on executing flawless personal drills but also on uniting the contingent to move in perfect synchronisation. Each member showed dedication, driven by a collective commitment to represent the Royal Brunei Air Force with pride. Early morning drills before sunrise became routine as we worked together, embodying the spirit of teamwork and pushing ourselves to the highest standard.



Parade Contingent Commanders from RBAirF.



Recitation of Doa before the Parade.



RBAirF Contingent *Berjalan Lalu*, saluting to His Majesty.

On the day of the parade, or “D-day,” the atmosphere was electric. Hundreds of students from across the districts lined the roads as early as 6:30 a.m., waving mini national flags and cheering in unison to the beat of the *hadrah*. Their energy reminded me of the significance of this event, not just for us but for the entire nation. As the contingent commander, I was determined to stay calm and composed. Ensuring we were well-rested, hydrated, and energised was key, especially knowing we’d need the stamina to march with precision and grace. After breakfast, we gathered to recite the doa, asking for blessings and unity, anchoring ourselves in the day’s purpose.

As we entered the parade ground, I couldn’t help but reflect on how surreal it felt to be part of this celebration. Years ago, I only witness this grand event on the grandstand, never imagining that one day I would be leading a Royal Brunei Air Force contingent. His Majesty’s arrival was marked by a solemn 21-gun salute, followed by the resonant notes of the national anthem. In that moment, I was filled with a mixture of pride and responsibility. My duty was to remain calm and poised, setting an example of “Service Above Self” while representing my country and our air force.

Leading the contingent through the march past His Majesty was a moment I will always remember. Chin up, maintaining a slow, smooth march, and then transitioning into a quick march, each step carried the weight of our dedication. I felt my heart pound as we passed by His Majesty, but on the surface, I appeared calm and collected, reminding myself that my team and I were here to embody the excellence expected of us. The synchrony of our movements reflected the hours of practice and commitment to teamwork, and I felt a strong sense of pride in our collective achievement.

The parade ran smoothly, each detail falling into place as we’d rehearsed. As we completed the march, a profound sense of honor washed over me. Representing the Royal Brunei Air Force in such a symbolic event was a privilege beyond words. Every aspect of the experience reinforced the values of respect, discipline, and unity that are at the heart of our mission.

Looking back, I am grateful for the chance to be part of this moment in history. This experience was not only a personal milestone but a reminder of the importance of serving something greater than ourselves. As a contingent commander, I carried forward the values of “Service Above Self, Teamwork, and Excellence,” and I am proud to have contributed to a day that celebrated our nation and our monarch. This event will remain a cherished memory, a symbol of our loyalty to His Majesty, and a testament to our shared commitment to Brunei Darussalam.

ROYAL BRUNEI AIR FORCE FLIGHT SAFETY DAY

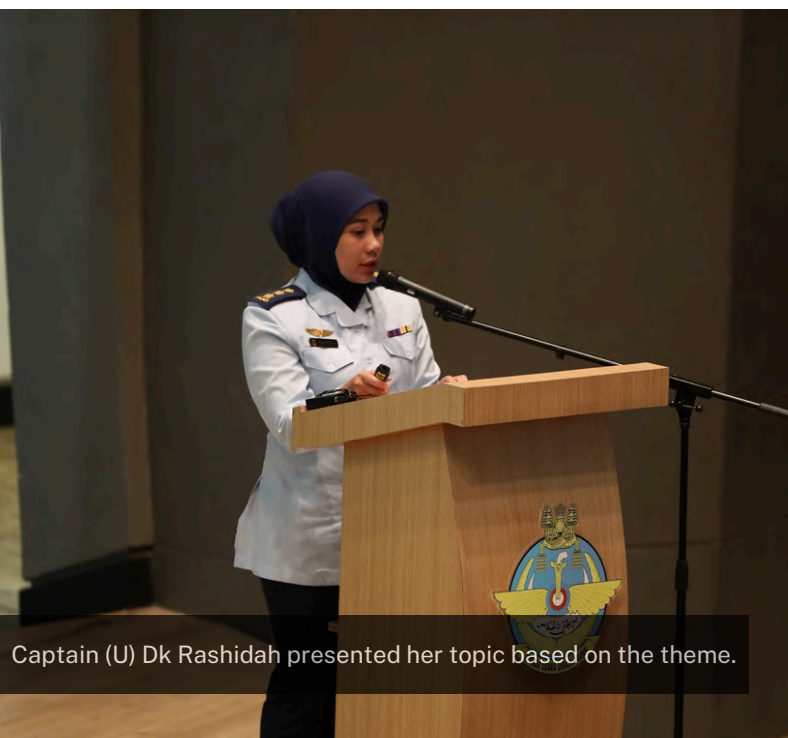
ELEVATING STANDARDS FOR A SAFER TOMORROW

By Lt. (U) Dk Amal Nadhirah



Flight safety is the cornerstone of every successful air operation. For the Royal Brunei Air Force (RBAirF), this principle isn't just a guideline – it's a way of life. Every mission, every flight, every decision is grounded in the commitment to safeguarding lives, protecting assets, and ensuring operational success. Flight Safety Day, an annual highlight in the RBAirF's calendar on every 20th July, embodies this commitment, bringing together aircrew, engineers, safety officers, and representatives from various agencies to reinforce the critical importance of safety in aviation.

This year's theme, "Enhancing Flight Safety Through Effective Communication and Decision-Making," resonates deeply with every member of the RBAirF family. The day's events reflected a shared understanding: in aviation, safety is not merely about following procedures; it's about cultivating a mindset that places vigilance and accountability at the heart of every action. Also attending this year's Flight Safety Day were distinguished guests, including the Defence Attachés from the United Kingdom and Singapore, representatives from the Republic Singapore Air Force, 230 Squadron Royal Air Force, Royal Brunei Airlines, Logistic Delivery Aviation, and the Department of Civil Aviation. Their presence underscored the interconnected nature of aviation safety, highlighting that the responsibility to uphold safety transcends borders and organisations.



Captain (U) Dk Rashidah presented her topic based on the theme.



Flight Lieutenant Ben Davidson from 230 Sqn, RAF as one of the guest speakers.



Panel discussion during the Flight Safety Day.

One of the most impactful aspects of the event was the opportunity to learn from real-world experiences. Presentations on past incidents and near-miss situations provided valuable insights into potential risks and the measures needed to mitigate them. Discussions on critical topics such as mid-air collision avoidance, operating in adverse weather, and risk management during Search and Rescue (SAR) missions reaffirmed the importance of preparation and adaptability in safeguarding lives and assets.

Safety drills and demonstrations added a practical dimension to the day. Watching pilots, technicians, and aircrew engage with these exercises was a testament to their dedication. From donning Personal Protective Equipment (PPE) to mastering emergency procedures and maintenance protocols, every activity reinforced the message that readiness is non-negotiable.

Another highlight was the Flight Safety Poster and Video competition, where personnel creatively showcased their understanding of flight safety. These entries weren't just artistic displays; they were powerful reminders of the collective effort required to maintain safety standards. The emphasis on "Service Above Self, Teamwork, and Excellence" came through vividly, showing that safety is not an individual task but a shared responsibility.

Looking to the future, this year's discussions also delved into the integration of advanced technologies to elevate safety standards. Innovations like real-time flight monitoring, advanced avionic systems, and enhanced pilot training simulators are poised to redefine aviation safety. The RBAirF's proactive approach in exploring these technologies reflects its commitment to staying ahead of emerging challenges.

For me, attending Flight Safety Day was a humbling experience. It was a powerful reminder of the

intricate balance between technology, human skill, and teamwork that keeps aviation safe. The open discussions about accountability and the encouragement to learn from errors underscored a simple truth: safety is a journey, not a destination. Every member of the RBAirF, whether in the cockpit or on the ground, plays a crucial role in upholding this standard.



Cpt (U) Qadirul and 73 Squadron won the Flight Safety Video Competition.

As the RBAirF looks ahead, Flight Safety Day remains a cornerstone event, shaping the culture of safety and innovation that defines the force. By fostering collaboration, embracing accountability, and continually striving for excellence, the RBAirF ensures that its personnel and aircraft operate in the safest possible environment. The lessons and connections from this year's Flight Safety Day will undoubtedly strengthen the RBAirF's resolve to maintain high standards of flight safety and prepare for the challenges of tomorrow.



RBAirF Flight Safety Day 2024 **Poster Competition Winner**
55 Squadron, No. 5 Wing, RBAirF

JOKES ARE FUN, BUT COMES **SAFETY** **FIRST**

**DON'T LET YOUR ACTIONS
DECIDE THE FATE OF YOUR CREW**

55 SQUADRON FLIGHT SAFETY

**ROYAL BRUNEI AIR FORCE
FLIGHT SAFETY
DAY 2024**





RBAirF Flight Safety Day 2024 Poster Competition **1st Runner-Up**
73 Squadron, No. 7 Wing, RBAirF

ARE YOU ON THE RIGHT FREQUENCY?

BE HEARD, BE SEEN, BE SAFE

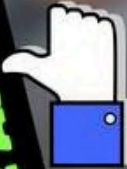


**AVIATION SAFETY RELIES HEAVILY ON PROPER
COMMUNICATION; USING THE WRONG FREQUENCY CAN
LEAD TO SERIOUS INCIDENTS.**



RBAirF Flight Safety Day 2024 Poster Competition **2nd Runner-Up**
Brunei Heli Detachment, Republic of Singapore Air Force

BE ASSERTIVE!



**GO BACK AT
LEAST 3 STEPS
ALERT!**

**KNOW THAT A
DISTRACTION OCCURED!
ALERT!**



**FALLING
PREY TO
DISTRACTION**

**Say
Cheese!**



A Showcase of Excellence

By Lt (U) Qawiemah

For the duration coverage of this Keris Terbang, we have witnessed remarkable individuals who have exemplified and upheld the core value of Excellence within the Royal Brunei Air Force (RBAirF). These dedicated personnel have gone above and beyond, investing their time and effort to achieve outstanding results in various areas beyond their regular duties. Whether through participation in national and international courses or excelling in competitions, their accomplishments reflect their unwavering commitment to high standards.

In this section, we are proud to congratulate and acknowledge these exceptional individuals for their dedication, perseverance, and top performances. Their achievements not only highlight their personal excellence but also showcase the professionalism and capabilities that define the RBAirF.



1ST PLACE TILAWAH AL-QURAN

The Royal Brunei Air Force (RBAirF) personnel, Private (U) Masrur Fu'ad bin Haji Asmat from No. 5 Wing has won the *Qari* category of the Musabaqah Tilawah Al-Qur'an in conjunction with the Royal Brunei Armed Forces' 63rd Anniversary which was held at the Auditorium Hall, Defence Academy (DA RBAF), Tanah Jambu. Let's find out Private (U) Masrur's thoughts and feeling after winning the competition:

KT: How did it feel to participate in the competition, and what was going through your mind during the recitation?

"I feel very happy and deeply moved to have achieved the 1st place position at the RBAF level. However, I am not yet satisfied with my recitation, which requires sufficient practice to improve its quality. There are still many shortcomings, especially in terms of *tajweed*, fluency, melody, voice, and breathing. Additionally, I still need to continue learning by studying under skilled Quran teachers through *talaqqi*."

KT: What are your future goals in the field of Quran recitation, and do you plan to participate in more competitions?

"The aim, besides earning rewards, is to enhance the quality of my Quran recitation, whether at the national or international level. I would like to participate in international competitions in the future."

KT: Winning first place is a huge achievement! What do you believe set your recitation apart from other talented participants?

"My opinion is that everyone has talent, but improvements and adequate training are necessary both before and during competitions. It is also essential to keep learning from skilled Quran teachers".



Prize Presentation by the Commander of Royal Brunei Armed Forces.



Group Photo with the Commander of Royal Brunei Armed Forces and Service Commanders.

GOLD MEDALIST FENCING

KUALA LUMPUR, MALAYSIA



A glimpse of Lt (U) Anis competing with her opponent from Malaysia.

The Royal Brunei Air Force (RBAirF) officer, Lieutenant (U) Hajah Anis Sabrina binti Hj Yahya, Staff Officer Grade 3 for A6 Communication and Information Systems (CIS), had won Gold Medal on her remarkable achievement at the 13th Malaysia Open Fencing Championships held in Kuala Lumpur, Malaysia. Let's explore Lieutenant (U) Hajah Anis's preparations and her feelings after winning the match.

KT: What initially drew you to the sport of fencing, and what do you find most exciting about competing in it?

“What motivates me to continue participating in fencing is the constant pursuit of excellence and the thrill of competition. The sport challenges me both mentally and physically, pushing me to continually improve my skills and techniques. Moreover, the camaraderie among fellow fencers and the supportive community inspires me to strive for success and represent my team and country with pride.

I stay resilient in the face of challenges through a combination of mental toughness and adaptive learning.

The countless failures and setbacks, I view them as opportunities for growth rather than obstacles. I actively seek feedback from my coaches and teammates to identify areas for improvement and adjust my training regimen accordingly. Additionally, maintaining a positive mindset and staying determined during difficult times have been instrumental in building my confidence and resilience as a fencer. “

KT: How have you been preparing for this competition, both in terms of technique and mental readiness?

I mentally prepare for training sessions and competitions by:

- **Self-talk and Visualisation:** By engaging in positive self-talk and visualisation techniques. Before each session, I visualise myself executing perfect techniques and winning exchanges. This not only boosts my confidence but also helps me mentally rehearse strategies and responses.
- **Evolution of Mental Preparation:** Over time, my approaches to mental preparation have evolved to include more structured visualisation routines. I now incorporate imagery not just for technique but also for managing stressful situations during competitions



Lt (U) Hajah Anis with her National Coach.

LAST MAN STANDING



WO2 (U) Azrul with his personal race timing.



During the challenging part of the race.

Warrant Officer 2 (U) Mohd Azrul Muzri bin Haji Adnan, No. 2 Wing personnel from The Royal Brunei Airforce brought great honour to the Sultanate by securing the esteemed title of “Last Man Standing” at the Bali Ultra Trail 2024. WO2 (U) Azrul had shared us on his preparation and tips before joining the race.

KT: What motivated you to participate in the Bali Ultra Trail, and what does this race mean to you personally?

What prompted me to follow the Bali Ultra run was based on the annual schedule that has been prepared by Grandmaster Asia where I have already registered as a Grandmaster Asia since 2023, with the condition that within two years, I must collect six Ultra Trail running certificates of 70 km to 100 km or more to qualify as a 1-star Grandmaster Asia.

KT: Bali's terrain can be challenging, with its tropical climate, steep trails and volcanic landscape. How have you prepared yourself physically and mentally for this unique situation?

Preparation for mountain running requires a study of the altitude and conditions there where I utilised videos on YouTube to create a daily, weekly and monthly training schedule according to the mountain height equivalent to the required training. Physical and mental in terms of trail running should include practices involving tempo breathing (threshold) which training results can be seen through Garmin GPS watches, Coros, Sunto and so on.

KT: What do you think is the most rewarding part of completing this race, and is there a particular part of the course that you were most excited to experience?

Finishing the Asian Grandmaster run is something unique where not many people hold the Asian Grandmaster title in Brunei and in RBAF, there has never been an Asian Grandmaster title. Grandmaster Asia may have a period of 2 years to meet the requirements but every destination will have difficulties if health is affected or internal injuries forces them to withdraw and wait for the next scheduled race in the Grandmaster Asia Quest. The most interesting part of the Ultra Trail Asia run is seeing the potential of the runners, sharing opinions while running, seeing the beauty of the environment, running by seeing the ability to compete between races and always giving support to fellow ultra runners.

This is the end of my Trail Ultra Asia run by getting 6 qualification certificates and the last one on 9th Nov 2024 at LAM DONG DALAT VIETNAM. The announcement will be broadcasted in the coming weeks as Grandmaster Asia 1 Star.

Ultra Asia run can be extended to 2-star, 3-star and 4-star levels without requiring a continuous period of time.

TURKISH LANGUAGE



During the 101st Anniversary of the Proclamation of the Republic of Türkiye which was held at the Songket Ball Room, Rizqun Hotel on 31st Oct 2024.

Sergeant (U) Khairunnisa binti Kusno from No.8 Wing, RBAirF participated the Turkish Language Course 2024 organised by the Brunei Yumus Emre Turkish Cultural Centre, Embassy Of The Republic of Turkiye.

KT: What specific skills or knowledge do you feel you've gained from the course, and how comfortable are you with speaking and understanding Turkish now?

"In this course, apart from learning about the language, I also indirectly learned about Turkish cultural traditions, knowing the types of Turkish food especially the Turkish Dessert that are very different from our culture in Brunei. So far understanding Turkish is easier than speaking."



RBAirF personnel and civilian staff with Commander of the RBAirF.

KT: Can you describe a situation where you successfully used Turkish outside the classroom, and what challenges (if any) you encountered?

"Alhamdulillah, apart from the class I used the Turkish language during the movie night invitation every Thursday night which was held at the Turkish Embassy and also during the 101st Anniversary of the Proclamation of the Republic of Türkiye which was held recently at the Songket Ball Room, Rizqun Hotel and I also performed a traditional Turkish song with my course-mate on stage and that was the most challenging part presenting in front of almost all representatives of the ambassador to Negara Brunei Darussalam."

KT: How has learning Turkish impacted your personal or professional life, and do you plan to continue building on these skills?

"Now, i can enjoy Turkish drama series and movie without the english subtitle, even my kids also fluent in Turkish a bit because they often listen when i revise the Turkish language at home."



Photo with the Turkish Language Lecturer.



WELCOMING VISITS FROM RMAF

By Lt (U) Dayangku Rabiatuladawiah

The Royal Brunei Air Force (RBAirF) recently hosted ceremonial events to honour high-ranking officials from the Royal Malaysian Air Force (RMAF) and the Indonesian Air Force (IDAF). These events included the prestigious presentation of the Honorary Pilot Wing, a recognition bestowed with the consent of His Majesty Sultan Haji Hassanal Bolkiah Mu'izzaddin Waddaulah, Sultan and Yang Di-Pertuan of Brunei Darussalam, acknowledging the recipients' significant contributions to defence cooperation and their roles in fortifying regional security ties.

Visit of General Tan Sri Dato' Sri Mohd Asghar Khan bin Goriman Khan to RBAirF

On 12 August 2024, General Tan Sri Dato' Sri Mohd Asghar Khan bin Goriman Khan, Chief of Air Force of the Royal Malaysian Air Force, along with his spouse, Puan Sri Datin Sri Bibi Nasratjahan binti Gulab Khan, arrived in Brunei Darussalam for a visit that celebrated the close bonds between the two nations' air forces. The ceremony was held at the Royal Brunei Air Force Headquarters, where General Tan Sri Dato' Sri Mohd Asghar Khan was warmly greeted with an honorary salute from the RBAirF Guard of Honour, marking the respect and camaraderie between Brunei and Malaysia. Upon his arrival, General Tan Sri Dato' Sri Mohd Asghar Khan was received by Brigadier General (U) Dato Seri Pahlawan Mohammad Sharif bin Dato Paduka Haji Ibrahim, Commander of the Royal Brunei Air Force. The event proceeded with a formal presentation of the Honorary Pilot Wing to General Tan Sri Dato' Sri Mohd Asghar Khan, symbolising Brunei's appreciation for his steadfast support in enhancing collaborative defence initiatives. The recognition highlights the valuable role



Brisk walk at Eco Corridor Park.



Mementos exchange.



Honorary Pilot Wing presentation.

General Tan Sri Dato' Sri Mohd Asghar Khan has played in fostering strong bilateral relations and cooperation between the RBAirF and RMAF. During his visit, General Tan Sri Dato' Sri Mohd Asghar Khan received an overview briefing on the Royal Brunei Air Force's operational capabilities, achievements, and strategic vision, illustrating the progress and future goals of Brunei's air force. This briefing, followed by a tour of RBAirF's modern aircraft and equipment, provided insights into Brunei's commitment to ensuring operational readiness and regional stability. To honour the visit, Brigadier General (U) Dato Seri Pahlawan Mohammad Sharif bin Dato Paduka Haji Ibrahim and his spouse, Datin Noraidah binti Haji Ibrahim, hosted a welcoming dinner at the Officers' Mess in Bolkiah Garrison. The evening's festivities included a traditional Silat performance, emblematic of Brunei's rich cultural heritage, which captivated the guests and set a celebratory tone. Speeches from both Brigadier General (U) Dato Seri Pahlawan Mohammad Sharif and General Tan Sri Dato' Sri Mohd Asghar Khan underscored the commitment to deepening ties and enhancing defence cooperation between the two air forces. The evening concluded with an exchange of mementos and a musical performance by the Royal Brunei Armed Forces Band, symbolising the friendship and unity shared by Brunei and Malaysia.



WELCOMING VISITS FROM IDAF



Picture Taking at Eco-Corridor Park.

Visit of Air Chief Marshal Mohamad Tonny Harjono to RBAirF

In a parallel ceremony that further showcased the Royal Brunei Air Force's dedication to international defence partnerships, Air Chief Marshal Mohamad Tonny Harjono, Chief of Staff of the Indonesian Air Force (IDAF), visited Brunei accompanied by his spouse, Nyonya Ira Frilasari Machmud.

This official visit highlighted the strength of Brunei and Indonesia's long-standing defence relations and celebrated Air Chief Marshal Mohamad Tonny Harjono's contributions to enhancing military cooperation in the region.

Upon his arrival at the Royal Brunei Air Force Headquarters, Air Chief Marshal Mohamad Tonny Harjono was welcomed with an honorary salute from the RBAirF Guard of Honour, symbolising the respect and goodwill shared between the RBAirF and IDAF.

He was then received by Brigadier General (U) Dato Seri Pahlawan Mohammad Sharif bin Dato Paduka Haji Ibrahim, who presented the Honorary Pilot Wing to Air Chief Marshal Mohamad Tonny Harjono.

This esteemed recognition reflects Brunei's appreciation for Air Chief Marshal Mohamad Tonny Harjono's role in supporting regional security initiatives and fostering strong defence relations between Brunei and Indonesia.



Mementos exchange.

During the visit, Air Chief Marshal Mohamad Tonny Harjono met with senior officials of the Royal Brunei Armed Forces (RBAF) and engaged in discussions centred on potential areas for enhanced collaboration. His itinerary included a tour of Hangar B at Rimba Air Force Base, where he viewed a static display of RBAirF aircraft and equipment, underscoring Brunei's advancements in aviation technology and commitment to maintaining operational readiness.

In honour of the occasion, Brigadier General (U) Dato Seri Pahlawan Mohammad Sharif bin Dato Paduka Haji Ibrahim and Datin Noraidah binti Haji Ibrahim hosted a formal dinner at the Officers' Mess, attended by senior RBAirF officers and their spouses. The evening's programme included a photo session, a traditional Bruneian performance, and a meaningful exchange of mementos. In their speeches, both Brigadier General (U) Dato Seri Pahlawan Mohammad Sharif and Air Chief Marshal Mohamad Tonny Harjono acknowledged the deep-rooted friendship and mutual respect between the Royal Brunei Air Force and the Indonesian Air Force. The event concluded with a musical performance by the Royal Brunei Armed Forces Band, reinforcing the celebratory spirit and unity shared between the two nations.

On 20 August 2024, the Royal Brunei Air Force (RBAirF) organised a formal morning brisk walk at Eco-Corridor Park, Bandar Seri Begawan, attended by Air Chief Marshal Mohamad Tonny Harjono, along with his spouse and accompanying delegates. Brigadier General (U) Dato Seri Pahlawan Mohammad Sharif bin Dato Paduka Haji Ibrahim, Commander of the RBAirF, and his spouse, Datin Noraidah binti Haji Ibrahim, were present, alongside senior officers and personnel from the RBAirF.

The event commenced with a structured warm-up session led by an RBAF Personal Training Instructor, followed by a detailed safety briefing. Participants then embarked on a scenic walk, enjoying the picturesque views of Kampong Ayer and the cityscape of Bandar Seri Begawan. The activity concluded with a group photograph, capturing the camaraderie and unity between the two air forces. The morning concluded with a breakfast reception that provided breathtaking views of the capital, further fostering diplomatic goodwill and mutual respect among the attendees.



Official dinner group photo.



INAUGURAL DRONE JAMMER COURSE

By Sgt. (U) Wan Abdul Qayum

In an era where drone technology is revolutionizing various sectors, the Royal Brunei Air Force (RBAiRF) is making significant strides to equip its personnel with the expertise needed to safely and effectively operate and manage these aerial systems.

From July 16 to August 27, 2024, 77 Squadron of the 7 Wing RBAiRF held its inaugural Basic Drone Pilot, Drone Jammer, and Detection Course. This program provided comprehensive training by combining theoretical knowledge with practical skills, highlighting the increasing significance of drones in military operations.

COURSE OVERVIEW

The course is designed for military personnel, security professionals, and drone enthusiasts. Over six weeks, participants engaged in a structured program covering a broad range of topics essential for mastering drone operations. The curriculum is divided into three main components: basic drone piloting, drone jamming techniques, and detection methods.



Static Display Tour by CO2 & CO7 during the Closing Ceremony.

1. Basic Drone Piloting

This module covers the fundamentals of drone operation. Participants will explore various drone models, including the Matrice 300 RTK and Mavic Zoom & Enterprise, focusing on their functionalities and applications. Emphasis will also be placed on the critical importance of pre-flight checks. The training includes hands-on flying sessions, allowing attendees to build confidence in maneuvering drones under diverse conditions.

2. Drone Jamming Techniques

As drone usage continues to expand, the need to secure airspace from unauthorized intrusions becomes increasingly critical. This module delves into the principles of drone jamming technology, providing participants with an in-depth understanding of various jamming methods and their applications in military and security contexts. It also addresses the ethical and legal considerations associated with the use of jammers, ensuring trainees are fully aware of the potential consequences and responsibilities involved in employing such technologies.

3. Detection Methods

In addition to jamming, the effective detection of unauthorized drones is crucial for maintaining security. This module introduces participants to various detection systems and methodologies. Through case studies and practical exercises, attendees will develop the skills to identify and respond to unauthorized drone activities, enhancing their situational awareness and operational readiness.



Drone Jammer Course Instructors from 77 Squadron, No. 7 Wing, RBAirF.

INSTRUCTORS

The course features a team of experienced instructors from the RBAirF, complemented by external experts specializing in drone technology and security.

Each instructor brings a wealth of expertise and hands-on experience, ensuring participants receive a comprehensive and well-rounded education.

The diverse backgrounds of the instructors offer unique perspectives on the versatile applications of drones, ranging from military reconnaissance to disaster management and search-and-rescue operations.

PRACTICAL APPLICATIONS AND BENEFITS

The skills acquired during this course will have significant implications for participants' respective organizations. As drones become increasingly integrated into diverse fields such as infrastructure inspection and environmental monitoring, proficiency in their operation will enable professionals to leverage this technology effectively.

Furthermore, knowledge of jamming and detection techniques is essential in addressing modern security threats that originate from the air. This course equips participants to develop and implement strategies that protect sensitive areas from unauthorized drone activity, thereby safeguarding national security interests.



Sgt (U) Qayum delivering a lecture on drone jamming.



Practical Evaluation during the Drone Jammer course.





RBAirF Participation during the National Maulidur Rasul Mass Gathering and Procession 1446H

REFLECTING ON THE 19TH EXECUTIVE DEVELOPMENT PROGRAMME AT SHHBIDSS, MINDEF BRUNEI

By Lt Col (U) Pg Mohd Zulhusmi



19th Executive Development Programme Closing Ceremony.

Participating in the 19th Executive Development Programme at SHHBIDSS, MINDEF Brunei, was a transformative milestone in my career. This program reshaped my understanding of public service, providing a profound depth of insight into policy and governance that went well beyond the typical scope of professional development. This intensive program equips us with invaluable insights and advanced analytical tools crucial for senior government officials in today's complex policy landscape.

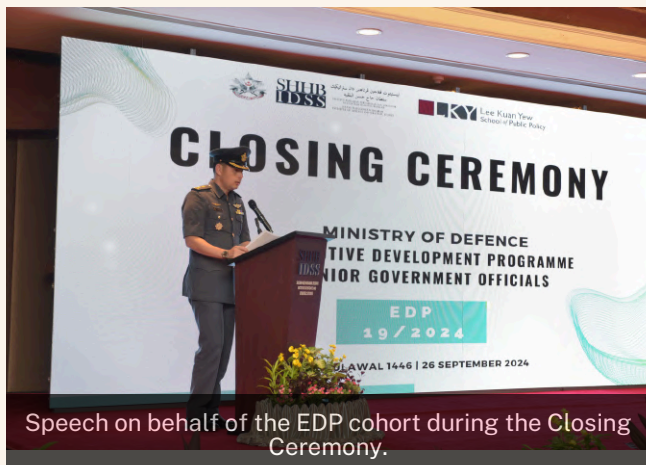
Right from the start, the program laid out our journey in clear, challenging terms. We began with an Administrative Brief and Programme Overview that set high expectations and a clear path for what was to come. It was more than just learning; it was about growing into strategic thinkers and effective leaders.



Group photo at SHHBIDSS, MINDEF.

Each week was built on the previous one, filled with specialised workshops led by experts like Dr Woo Jun Jie, Prof Paul Barter, and Prof Wu Xun. They guided us through policy analysis, public policy instruments, and how to make decisions based on solid data. These sessions were challenging and hands-on, pushing us to apply what we learned to real-life situations.

The assignments were particularly rigorous, requiring us to apply theoretical concepts to practical scenarios within our governance frameworks. From drafting detailed policy proposals to analysing case studies from around the world, these assignments tested our ability to synthesise information and propose actionable solutions. The feedback from our lecturers was invaluable, helping us refine our approaches and deepen our understanding of complex policy issues.



Speech on behalf of the EDP cohort during the Closing Ceremony.



Photo with the Commander of RBAirF.

This provided us with a detailed understanding of Brunei's policy-making framework. We explored how to balance diverse factors, such as economic needs and social implications, to craft policies that are both effective and sustainable. This deep dive into the strategic aspects of policy development is critical for any senior official looking to navigate the complexities of governance within the ASEAN region.



Group photo at the Lee Kuan Yew, School of Public Policy, National University of Singapore.

Collaboration was another key part of the program. Working in groups during workshops on "Stakeholder Analysis" and "Public-Private Partnership" helped us build strong bonds and respect for different viewpoints. These discussions were not just theoretical but practical, teaching us how to bring diverse ideas together into workable policies.

The program wrapped up with our Policy Analysis Exercise presentations, showcasing our new analytical skills and deeper understanding of complex issues. This final challenge showed not just our personal growth but also how much we had advanced as a group, ready to put these skills to use in our government roles.



“One key feature was the emphasis on the thought process behind designing effective policies, managed by the Lee Kuan Yew School of Public Policy at SHHBIDSS.”

I am deeply grateful for the opportunity to participate in this programme. It has profoundly shaped my perspective and approach to leadership and governance. The skills and insights gained are assets that I will carry forward into my current role and future appointments, strengthening my ability to handle upcoming challenges.

In short, the Executive Development Programme at SHHBIDSS was much more than just educational; it transformed the way we see and approach our jobs. It deepened our commitment to governance and policy-making, equipping us to effectively contribute to our nation's progress.



Group discussion by participants.

UNMANNED EXCELLENCE: CELEBRATING WING PRESENTATION AND MISSION SUCCESS IN THE UAS SQUADRON

By Cpt (U) Ruziman

Friday the 13th, September 2024, has become a memorable day for me and 7 other qualified UAS pilot operators, inclusive of 4 Officers and 4 Other Ranks. It was a long-awaited ceremony since the completion of the course back in December 2020. It marked a significant milestone as RBAirF held its first inaugural wing presentation ceremony for the UAS No. 39 Squadron, No. 3 Wing. The event was graced by esteemed guests, including members of the Board of Executive Officers from the RBAirF, and family members of the wing recipients.



The presence of RBAirF's high command underscored the importance of this achievement and the value placed on the RB Air Force's role in safeguarding the nation's sovereignty. I believe that the wing presentation following such training is not just a ceremonial event but a powerful motivator that recognises the personnel's hard work, commitment, achievements, and contribution to the organisation. Moreover, it becomes more significant as the RBAirF Commander, Brigadier General (U) Dato Seri Pahlawan Mohd Sharif bin Dato Paduka Haji Ibrahim, himself presented the wing personally to us: Cpt (U) Saifullah, Cpt (U) Sufiah, Cpt (U) Ruziman, Lt (U) Hanif, Sgt (U) Arkrimen, Sgt (U) Hj Yusri, Sgt (U) Hj Hilman and Sgt (U) Masri.



UAS Wing Presentation.



Family members attended the event.

A Moment of Pride for Families & Friends

In the audience, beaming faces, and exchange looks of pride and joy amongst our families and friends were easily captured during the event as a memorable memoir unfolded for this significant accomplishment.

Their unwavering and unconditional support system from the beginning and throughout our entire journey was reflected through this event allowing them to witness the fruits of their unwavering support, beliefs, and simply a shared triumph for all.



Group photo with RBAirF's Board of Executives during the UAS Wing Presentation Ceremony.



Preparing for the launching of the Integrator UAV.

UAS

Significant Milestone



Departing for the Basic UAS Integrator Course.

The journey to earn the wing was anything but easy. It first began in October 2020 when we, the 8 pioneers, were assigned to undergo Basic UAS Integrator Course Training at Insitu in Washington State, United States of America. Upon our return from the course, significant efforts, perseverance, and overcoming challenges were undoubtedly an integrated part of our journey as it required consistent simulators and actual-flight training whilst developing the Standard of Procedure (SOP) in tandem.

Subsequently, progressive efforts were put into the establishment of the 39 squadron. As things were slowly put in place, we finally got the opportunity to organise the wing presentation event, which further made it more remarkable for us to honour the dedication that we have been through.



UAS Integrator Flight Training at White Salmon, Washington, USA.



Flight Training practical at Pendleton, Oregon, USA.



EXERCISE AIRGUARD

By Sgt (U) Abdul Qawi

Joint military training is one of the important initiatives in ensuring mutual understanding and operational capability between regional countries. EX AIRGUARD, for example, involves the participation of soldiers from Singapore and Brunei in joint air and defence operations. This exercise is an important opportunity to strengthen diplomatic relations and regional military cooperation already established, apart from strengthening the country's capabilities and preparedness in the face of common security threats.

From the point of view, the AIRGUARD Exercise offers a very important platform for all these countries to hone their tactical and strategic abilities in air operations. The training involved various aspects, including air defence, strategic offensive, and humanitarian aid operations. With the participation of soldiers from Singapore and Brunei, this exercise not only involves technical aspects, but also diplomatic cooperation.

Singapore, as a country known for its military technological prowess, brings a very modern and high-tech approach to this exercise. The use of advanced technology such as radar systems, advanced fighter aircraft, and integrated operational tactics help improve the quality of training for all involved. On the other hand, Brunei, with its smaller but highly disciplined force, enriched these exercises with a more tactical approach to land and maritime operations, complementing air operations.



Discussion with Subject Matter Expert (SME).

Insights from EX AIRGUARD

The view of this exercise is very positive because it not only provides an opportunity to improve military capabilities but also strengthens solidarity and cooperation between member countries with the first involvement of the Blackhawk and UAS. Personally, the experience of being involved in the AIRGUARD exercise gave me a new perspective on how important regional cooperation is in the military field.

Working with soldiers from Singapore and Brunei exposed me to various methods and techniques used by these two countries. In air operations training, for example, Singapore soldiers are highly disciplined and structured, while Brunei soldiers are more flexible in their approach, but equally efficient.

“The spirit of working together and and commitment to achieving a common goal was palpable throughout the training.”

Apart from learning from these different approaches, the AIRGUARD training also helps to strengthen the mutual respect between the military personnel involved. Despite the differences in culture and background, the spirit of working together and commitment to achieving a common goal was palpable throughout the training. Each participant not only had the opportunity to practice their military skills but also learned about the importance of military diplomacy in fostering regional peace and stability.

At the same time, the logistics and communication aspects of AIRGUARD training are also very interesting. Conducting air operations involves precise coordination between various teams from two different countries. This includes conducting joint air operations, coordinating information on the ground, and ensuring each team understands their respective roles. This experience proves that such training is not only about strengthening military capabilities, but also about how to communicate and work together in stressful situations.

In a regional context, the AIRGUARD exercise is an important symbol in efforts to strengthen military cooperation between Singapore and Brunei. These two countries, despite having different histories and backgrounds, share a common interest in maintaining peace and stability in the Southeast Asian region. Exercises like this strengthen military readiness, improve understanding between different military operational cultures, and most importantly, build confidence and trust between member nations.

Military cooperation in this exercise is also a form of prevention against external threats. By showing that regional countries can cooperate well in military operations, it simultaneously sends a clear message to outside parties that any threat to the stability of the region will be dealt with seriously and in an integrated manner.

Reflection

AIRGUARD training was a very meaningful experience for the military personnel involved, including myself. It not only opens up opportunities to improve technical capabilities in air operations but also helps build closer ties between the forces from Singapore and Brunei. Through this training, I realised that regional cooperation in the military field is the key to stability and peace in Southeast Asia. More than that, the experience of training with soldiers from neighbouring countries enriched my understanding of the diversity of strategies, cultures, and values in the military that transcend national borders.

“... regional cooperation in the military field is the key to stability and peace in Southeast Asia.”



Mistral Disposal from the Blackhawk.



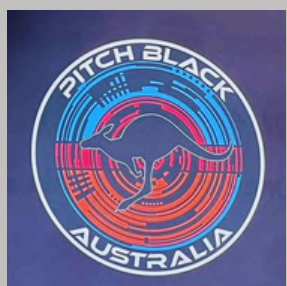
Medical Evacuation scenario.



Air Defence System Installation.



Air Security System Installation.



EXERCISE PITCH BLACK 2024: A WINDOW INTO THE COMPLEX WORLD OF FIGHTER OPERATIONS

By Maj (U) Mohd Aliff





With the Traditional Dance Performers during the Welcoming Dinner Reception.

The Royal Brunei Air Force (RBAirF) embarked on a significant milestone in its operational history by participating in Exercise Pitch Black 2024. This biennial multinational air warfare exercise, held in the Northern Territory of Australia, provided the RBAirF with an unparalleled opportunity to delve into the intricacies of multinational fighter operations.

The RBAirF's involvement in Pitch Black 2024 shifted my perspective in air operations as it offers a unique lens into the complex world of fighter operations. As planners, the RBAirF team was immersed in the intricate tapestry of airspace management, mission coordination, and intelligence integration. The exercise provided a firsthand look at the meticulous planning and coordination required to execute successful fighter operations, involving a diverse array of aircraft and personnel from various nations.

“The experience was invaluable, as it exposed the RBAirF delegates to a wide range of operational considerations.”

Airspace Management:

Understanding the complexities of managing airspace in a dynamic and contested environment, ensuring the safe and efficient movement of aircraft.

Mission Planning:

Developing detailed mission plans, taking into account factors such as weather, threat assessment, fuel considerations, and the specific capabilities of different aircraft types.

Intelligence Integration:

Leveraging intelligence information to inform decision-making, target identification, and threat assessment.

Interoperability:

Working collaboratively with air forces from different nations, overcoming cultural and operational differences to achieve common objectives.

Emergency Procedures:

Developing and practicing emergency procedures, such as medical evacuation, and combat search and rescue.



With Philippines Air Force pilots during the Ex Pitch Black Open Day.

Beyond the operational aspects, Pitch Black 2024 offered a unique opportunity for networking and relationship-building. Interacting with experienced aviators from multiple platforms and planners from various countries allowed the RBAirF team to learn from their expertise and forge valuable connections.

These relationships can foster future collaborations, knowledge sharing, and interoperability, enhancing the RBAirF's ability to operate effectively in a multinational context.

The RBAirF's participation in Pitch Black 2024 represents a significant step forward in its development. The experience gained from this exercise will undoubtedly enhance the RBAirF's capabilities and contribute to its future growth and modernization.



Tactical Airlift Mission Planning.

MOTORCYCLE SAFETY

By WO1 (U) Redzaini

Motorcycling has become an increasingly popular activity and mode of transportation in recent years. Not only is it a thrilling recreational pursuit, but it has also emerged as a practical means of commuting to work. For members of the RBAirF (Royal Brunei Air Force), riding motorcycles to work is a common practice. This not only helps avoid traffic congestion but also saves fuel, and motorcycles are easier to park close to the workplace.

With over 100 RBAirF personnel riding motorcycles regularly, it's crucial to acknowledge the risks involved, especially accidents. However, the risk can be minimised through awareness and knowledge of motorcycle safety.

To promote safety, RBAirF has organised a motorcycle safety briefing, inviting the Darussalam Motorcycle Association (PEMODA) to conduct demonstrations and road safety convoy.



Safety Briefing by PEMODA.

7 Essential Motorcycle Safety Tips



1.

Protective Gear

The right gear can be the difference between life and death in an accident. Here's what every rider needs:

- **Helmet:** It protects the head and reduces the risk of fatal injuries by nearly 40%.
- **Jackets and Pants:** Wear abrasion-resistant materials to prevent road rash and reduce injury severity.
- **Gloves:** Full-fingered gloves improve grip and protect the hands.
- **Boots:** Over-the-ankle boots safeguard your feet and ankles during a crash.
- **Eye Protection:** Use goggles or a helmet visor to shield your eyes from debris, wind, and insects that could hinder vision.

2.

Motorcycle Maintenance

Regular maintenance is essential for a smooth and safe ride. Ensure that:

- **Tires:** Proper inflation and tread depth are crucial. Damaged or worn-out tires increase the risk of losing control.
- **Brakes:** Regularly check brake pads and fluid levels to ensure efficient stopping.
- **Lights:** Ensure all lights—headlights, tail lights, and indicators—are functioning to ensure visibility.

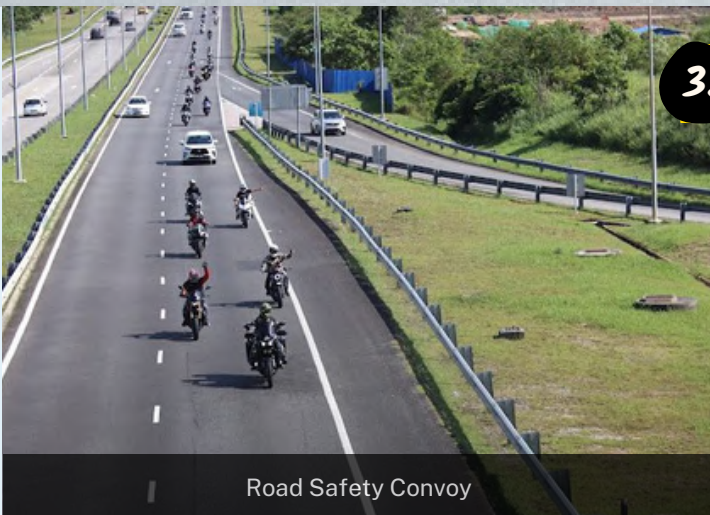


3.

Defensive Riding

Being defensive means being proactive and cautious. Always:

- **Be Visible:** Wear bright or reflective clothing, and position yourself to be seen by other drivers.
- **Anticipate Hazards:** Stay alert to sudden lane changes, stops, or road debris. Keep a safe distance from other vehicles and avoid blind spots.
- **Speed Control:** Riding at safe speeds, especially in heavy traffic or adverse weather, helps reduce the risk of losing control or being unable to react in time to a hazard.



Road Safety Convoy



PEMODA conducting hands-on class

4. Training & Licensing

Safety begins with proper education:

- **Training Courses:** Taking a motorcycle safety course helps new riders learn critical skills like manoeuvring, braking, and accident avoidance. Even experienced riders can benefit from advanced courses that teach how to handle high-risk situations.
- **Proper Licensing:** Ensuring riders are properly licensed and trained is essential for safe riding. Licensing exams typically test both riding skills and knowledge of traffic laws specific to motorcyclists.



Road Safety Convoy Takeoff

5. Road & Environmental Awareness

Adapt to the environment for safe riding:

- **Weather Conditions:** Motorcycles are more susceptible to weather-related hazards. Riders should be cautious when riding in rain, snow, or fog, as these conditions reduce traction and visibility.
- **Road Surface:** Motorcycles can lose traction on gravel, sand, wet leaves, or oil spills. Riders must be vigilant about road conditions and adjust speed and maneuvering accordingly.

6. Crash Avoidance & Risk Reduction

Minimizing risk is key:

- **Safe Distances:** Motorcyclists should maintain a safe following distance to allow adequate reaction time. Stopping distances on a motorcycle are shorter than in a car, but riders need space to react to sudden stops or changes in traffic.
- **Cornering and Turns:** Navigating turns safely requires proper speed control and body positioning. Riders should avoid taking corners too fast, especially in unfamiliar areas.



7. Emergency Preparedness

Prepare for the unexpected:

- **Braking:** Learning to use both the front and rear brakes effectively can reduce stopping distances and prevent skidding.
- **Swerving:** In some situations, swerving around an obstacle is safer than attempting to stop. Riders should practice this skill to handle sudden hazards.



Conclusion

Motorcycle safety is about taking proactive steps to reduce risks through proper gear, defensive riding, training, and vehicle maintenance. By being prepared, cautious, and fully aware of the road, motorcyclists can significantly improve their chances of staying safe while enjoying the ride.



RETHINKING AIR SUPERIORITY: LESSONS FROM THE USAF AND THE RUSSIA-UKRAINE WAR

By Maj (U) Md Qamarularifin

The U.S. Air Force (USAF) has long been synonymous with air superiority, a core tenet of its operational doctrine since its inception. With its active involvement in military operations around the world, the USAF provides a wealth of experience and insights into modern airpower strategies and challenges. This makes it a prime example to study and understand how air superiority is being redefined in light of evolving threats and global conflicts. Recent developments in the Russia-Ukraine War have further underscored the changing nature of air warfare, prompting the USAF to adapt its approach to air superiority in the modern battlefield.

Historically, air superiority was achieved through the deployment of advanced fighter jets, such as the F-22 Raptor and F-35 Lightning II, designed to dominate contested airspaces. These assets embodied a doctrine of overwhelming air dominance, ensuring unimpeded freedom of operation for ground and naval forces. However, the Ukraine conflict has demonstrated that traditional air dominance—characterized by the unchallenged control of the skies—is no longer sufficient. Adversaries have adopted asymmetric tactics, leveraging cost-effective technologies to offset superior hardware. This has shifted the focus towards integrated, multi-domain operations where air, land, sea, space, and cyber capabilities converge to achieve strategic objectives.

Key Lessons

One of the key lessons from the Russia-Ukraine War is the growing significance of unmanned aerial systems (UAS) and low-cost, high-impact technologies. Drones have proven to be game-changers in both offensive and defensive operations. Ukrainian forces, with limited traditional airpower, have used drones effectively to conduct reconnaissance, target enemy assets, and disrupt logistical supply chains. Commercial off-the-shelf drones have been adapted for military use, offering affordable and scalable solutions to battlefield challenges. This asymmetric approach has challenged conventional notions of air superiority, demonstrating that control over the air does not always equate to dominance.



'Army of Drones' used in Kyiv during the war.
Photo Credit: Ukraine's Battlefield Drones - by *The Atlantic*.

The implications of drone proliferation extend beyond their immediate tactical impact. Drones' versatility has forced traditional air forces to rethink their operational priorities, including the protection of critical infrastructure and the need for counter-drone systems. The USAF has taken note, increasing its investment in autonomous technologies and counter-UAS capabilities. This includes the development of AI-enabled systems capable of detecting and neutralizing drone threats in real time.

Electronic warfare (EW) and cyber capabilities have also emerged as critical components of modern air superiority. Both Ukraine and Russia have employed sophisticated EW systems to jam communications, disrupt navigation, and degrade enemy drones. These tactics highlight the increasing vulnerability of traditional air assets to non-kinetic threats. For example, GPS jamming and spoofing have hindered drone operations, while cyberattacks have targeted command-and-control networks. The USAF is thus investing heavily in resilient communication networks, artificial intelligence (AI)-enabled systems, and advanced EW platforms to counter these challenges. This underscores the necessity of building redundancy and resilience into airpower strategies.



Russia's Krasukha-4 Electronic Warfare System positioned near Ukrainian border, designed to jam enemy radar and satellite signals.
Photo Credit: The Warzone (twz.com)

Another crucial lesson is the necessity of distributed operations. The conflict has shown that centralized airbases are highly vulnerable to missile and drone attacks. In response, the USAF is embracing the concept of Agile Combat Employment (ACE), which involves dispersing forces across smaller, more resilient operating locations. This approach ensures that air operations can continue even under sustained enemy attack, enhancing survivability and operational flexibility. ACE also emphasizes the use of multi-capable Airmen—personnel trained to perform multiple roles—to maintain operations in austere environments.



Visualisation of Agile Combat Employment (ACE).
Photo Credit: Air University

Furthermore, the war has reinforced the importance of joint and coalition operations. Ukraine's ability to integrate Western intelligence, weapons systems, and training into its operations has been pivotal. This synergy has allowed Ukraine to punch above its weight against a larger adversary. For the USAF, this underscores the need to enhance interoperability with allied and partner nations, ensuring seamless coordination across platforms and domains. Multinational exercises and standardized protocols are essential to achieving this level of integration, as are efforts to share intelligence and operational best practices in real-time.

The lessons from the Russia-Ukraine War also extend to the psychological and strategic dimensions of airpower. The ability to maintain air superiority—or at least deny it to the enemy—has significant implications for morale and political leverage. Both Ukraine and Russia have leveraged their airpower capabilities to influence global perceptions, highlighting the intersection of military operations and strategic communication.

Conclusion

The Royal Brunei Air Force (RBAirF) can draw valuable lessons from these developments. It is crucial for the RBAirF to continue monitoring and studying airpower developments worldwide to ensure it grasps the fundamental concepts of airpower, even in the absence of advanced assets. Understanding these principles will enable the RBAirF to optimise its existing assets while shaping for its future operational capabilities, and additionally prepare to participate in joint operations, regional exercises, or international conferences with other nations. Such engagements will help the RBAirF comprehend the growing complexity of global changes, align with evolving airpower doctrines, and maintain relevance in an increasingly dynamic security environment.

Drone Proliferation: **EXPANDING ACCESS AND GLOBAL IMPLICATIONS**

By Lt (U) Iz'aan



Military drones are displayed prior to a drill, in an undisclosed location in Iran on 5 January, 2021
(Photo credit: European Council on Foreign Relations).

Drone proliferation refers to the rapid increase in the availability, usage, and deployment of drones (unmanned aerial vehicles, or UAVs) across a wide spectrum of sectors, including military, commercial, and civilian applications. Initially developed primarily for military use, drone technology has evolved and spread quickly, driven by advances in miniaturisation, artificial intelligence, and navigation systems. This proliferation has transformed industries, impacted global security, and introduced significant regulatory challenges.

Drivers of Drone Proliferation

Several factors have fuelled the rapid growth and widespread use of drones. One key driver is technological advancement. Innovations in computing, sensor technology, and materials science have enabled the development of drones that are smaller, lighter, and more capable than ever before. Improved battery technology has extended flight times, while advances in artificial intelligence (AI) have made drones more autonomous, capable of performing complex tasks without human input. Navigation systems, particularly the integration of Global Positioning System (GPS) technology, allow drones to operate with pinpoint accuracy, further broadening their utility.

Cost reduction is another major factor. Initially, drone technology was expensive and largely the domain of militaries or specialised industries. However, the mass production of drones, particularly consumer models, has led to significant cost reductions. Today, both hobbyists and small businesses can afford high-performance drones equipped with sophisticated cameras and sensors, leading to widespread civilian adoption.

Moreover, globalisation has played a pivotal role in drone proliferation. As drones became commercially available, countries and non-state actors gained access to this technology through international markets. Countries like China have emerged as key producers of drones, offering a range of commercial and military UAVs at various price points. This global market for drones has facilitated their spread across borders, with even low-cost, commercially available models being adapted for diverse uses, including military operations and insurgent activities.

Military Implications

The proliferation of drones has had a profound impact on military operations. Initially used by major military powers like the United States for surveillance and targeted strikes, drones are now a key component of many nations' defence strategies. Militaries around the world use UAVs for intelligence, surveillance, reconnaissance (ISR), and precision strikes. The use of drones allows military forces to conduct operations without risking the lives of personnel, providing real-time intelligence and enabling precision attacks with minimal collateral damage.

Case Study: Ukraine Russian war

Ukraine has employed a range of drone technologies, from consumer-grade UAVs to sophisticated military platforms. One notable example is the Turkish-made Bayraktar TB2 drone, which has been extensively used by the Ukrainian military. The Bayraktar TB2 is capable of flying long distances, carrying precision-guided munitions, and providing surveillance data. It has been credited with helping Ukraine conduct several successful operations, such as targeting Russian armoured vehicles and supply convoys, disrupting logistical chains, and damaging high-value targets behind enemy lines.

In addition to military drones, Ukraine has also adapted commercially available drones for battlefield use. These off-the-shelf drones, modified by Ukrainian forces, have been used for scouting missions, dropping grenades, or simply distracting enemy troops. Civilian volunteers, hobbyists, and tech companies have joined efforts to enhance Ukraine's drone capabilities, providing technical expertise and equipment.



Challenges and Regulation

The rapid proliferation of drones has created regulatory challenges. Governments around the world are grappling with how to regulate drone usage while balancing innovation with safety and privacy concerns. Many countries have introduced rules governing where and how drones can be flown, requiring registration, pilot certification, and restrictions on flying near sensitive areas like airports or government buildings. However, enforcing these regulations is difficult, especially as the number of drones continues to grow.

In response to security concerns, there has been increased interest in developing counter-drone technologies, such as radar systems, jamming devices, and even lasers to disable unauthorized drones. These technologies are particularly important for protecting critical infrastructure from potential drone threats.



Russia's Drone Operations

Russia, too, has made extensive use of drones in the conflict. Russian forces have deployed UAVs for intelligence, surveillance, and reconnaissance (ISR) missions, using them to identify Ukrainian positions and guide missile strikes. However, Russia has faced challenges in drone effectiveness, particularly when compared to Ukraine's successful operations with the Bayraktar TB2.

In recent months, Russia has increasingly turned to Iran-made Shahed-136 drones, which have been used in swarming attacks, especially on Ukrainian infrastructure. These drones are designed to fly long distances and overwhelm air defence systems, targeting cities, energy facilities, and communication nodes.

Conclusion

Drone proliferation is reshaping industries, altering military strategies, and presenting new challenges for regulation and security. While drones offer significant benefits in areas such as agriculture, logistics, and surveillance, their widespread use also raises concerns about privacy, safety, and security. As drones become more integrated into daily life, the world will need to adapt to their presence, creating frameworks to maximise their positive impact while mitigating potential risks.



Royal Air Force Flight Lt. Darren French, left, an instructor pilot with the Pilot Training Next program, shows the virtual reality flight training cockpit to British Army Col. Paddy Logan, assistant director for flying training for RAF Headquarters 22 Group. Photo Credit: AirForcetimes.com

VIRTUAL REALITY TECHNOLOGY IN FLYING TRAINING

By Lt (U) Ifwat

Virtual Reality (VR) is a computer-generated simulation of an immersive environment. It allows users to interact as if they were physically present. It is usually experienced through a headset and hand tools.

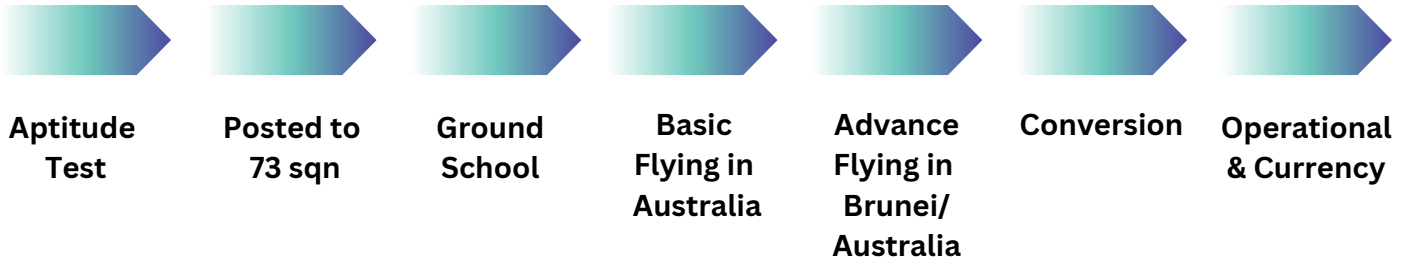
VR has been developed throughout the years and has been able to make a huge impact to our world. The aviation industry throughout the world has hugely benefited from these technological advancements and has utilised it to further help pilots and future pilots for their training. This technology has enhanced the learning experience of future pilots and has also managed to address several challenges associated with traditional training methods.

Before VR was invented most training was conducted on simulators which cost a lot of money. Flying is a complex skill that requires a combination of theoretical knowledge and practical experience. Traditionally, pilot training involves classroom instruction, simulator sessions, and actual flight hours. While simulators have been a staple in aviation training for decades, they often fall short in replicating the immersive experience of real flying. This is where VR comes into play, providing a more realistic and engaging environment for trainees.



VR Simulation training demonstration.

Countries such as the UK and the US have used the VR technology for the development of their Air Force and Navy pilots. This has proven to be beneficial for their army as it has efficiently reduced the amount of training hours for the student pilots which resulted in an increase of highly trained pilots for them. Examples of the training they do using the VR are aerial refuelling for B-52 pilots, Basic Flying Training and High G-Force training.



Student Pilot training using the CT4.

VR systems are regularly maintained to ensure their reliability, longevity, and optimal performance. Additionally, protecting sensitive military training data is of utmost importance, as the threat of cyberattacks is ever-present, with malicious actors seeking to exploit such information for unauthorized gain. To mitigate these risks, robust cybersecurity measures must be implemented, ensuring the integrity and confidentiality of the data. Finally, it is essential that the technology complies with evolving regulatory standards, ensuring its alignment with legal requirements and industry best practices.

The advantages of VR include cost effectiveness, immersive and tailored realistic simulations and safe training environment. This will also make the training more realistic and customised training experiences and minimises the risks in live training exercises. However, the implementation of VR also has some challenges such as graphic fidelity and hardware requirements. The graphic fidelity impacts the realism and immersion of VR simulations while the hardware requires a substantial initial investment and ongoing maintenance.

In the Royal Brunei Air Force (RBAirF), student pilots undergo a rigorous training process, which involves multiple stages before they earn their wings and transition to becoming operational pilots. While this process is essential for developing highly skilled personnel, it can also be resource-intensive—requiring significant investments in time, instructors, aircraft, and other resources—while also posing inherent risks and demanding high levels of performance. By integrating virtual reality (VR) into the training framework, we have the potential to reduce costs, accelerate training timelines, and enhance overall efficiency, while still maintaining the high standards of excellence required for operational readiness.

Before implementing virtual reality (VR) in flight training, several key considerations must be addressed to ensure its success and sustainability. These include the costs associated with maintenance and ongoing support, as well as the need to safeguard security and data privacy. It is crucial that the



Student Pilot training using the Bell 206.

In conclusion, while traditional training methods can present challenges such as high costs, resource demands, and potential risks, integrating virtual reality with these approaches offers a promising opportunity to enhance training outcomes. This combination has the potential to improve both the effectiveness and efficiency of training programs, while also mitigating some of the limitations inherent in traditional methods.

SCIENCE OF SLEEP

Enhance Performance Through Rest

By Lt (U) Zahidah

SLEEP IS THE KEY TO PRODUCTIVITY

In an armed forces organisation, sleep is critical for optimal performance, decision making, and physical readiness. Adequate rest improves cognitive function, focus, and reaction times, while reducing stress and the risk of errors. Well-rested personnel are more alert, resilient, and effective, enhancing overall mission success and safety.

10 WAYS TO IMPROVE PERFORMANCE THROUGH SLEEP



1. Stick to a consistent sleep schedule

Consistency is crucial for regulating an individual body's internal clock (circadian rhythm). Go to bed and wake up at the same time every day, even on weekends, to improve quality of sleep and make it easier to get up in the morning feeling refreshed.

2. Get enough sleep

The accurate amount of sleep is essential for cognitive function, memory consolidation, mood regulation, and physical recovery. Aim for 7 to 9 hours per night, depending on an individual personal needs. Sleep deprivation negatively affects focus, decision-making, and creativity.



3. Optimizing sleeping environment

Factors that can affect sleeping environment to improve sleep quality are; darkness, cool temperature and quietness. As simple as using blackout curtains, aim temperature for 15-19 degree celcius and use earplugs or a white noise machine if necessary, can help to sleep well and better

4. Limit exposure to blue light

Blue light from phones, computers, and TVs interferes with melatonin production, which is the hormone that regulates sleep. Limit screen use at least 30-60 minutes before bed to help your brain prepare for rest.



5. Avoid heavy meals and caffeine before bed

Eating a large meal or drinking coffee too close to bedtime can disrupt sleep. Caffeine can interfere with the quality of deep sleep, while heavy meals might cause discomfort or indigestion.



6. Exercise regularly

Physical activity can improve the quality of your sleep, but timing is important. Exercise too close to bedtime can increase adrenaline and make it harder to sleep. Aim to finish vigorous exercise at least 3 hours before bed for optimal rest.

7. Take short power naps if needed

If an individual is feeling fatigued during the day, it is advisable to take a short power nap of at least 10-20 minutes. This can recharge an individual without interfering with nighttime sleep. Avoid napping in the late afternoon, as it can make it harder to fall asleep at night.



8. Incorporate relaxation practices

Engagement in calm activities before going to bed so that one's body understands that it is time to wind down. Practices like deep breathing, progressive muscle relaxation, meditation, or even reading a book can help to reduce stress and prepare perspective's mind to sleep.

9. Track sleep quality

Using a sleep tracker such as smart watches, can help to monitor the sleep quality. Metrics such as deep sleep, REM sleep, and how often you wake up during the night can help you understand patterns and identify areas for improvement.



10. Stay hydrated

Dehydration can lead to poor sleep quality and discomfort during the night. Hence, drink plenty of water throughout the day, but avoid drinking too much right before bed to prevent nighttime trips to the bathroom.

Improved sleep can enhance personnels' cognitive function, decision-making, and alertness, crucial for both training and real-world operations. Better sleep leads to increased focus, quicker reaction times, and better physical endurance. Additionally, it helps manage stress and mood, reducing the risk of burnout and enhancing overall readiness, ensuring personnel perform at their highest capacity during high-pressure situations and extended missions. Prioritising sleep is an investment in operational success.



KERIS TERBANG