FLYTALK

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CLINT TALIANA RECALLS HIS DAYS AT MEDAVIA

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Cover Image

This Boeing 747-409F is operated by Air Atlanta Icelandic on behalf of Network Aviation, hence the titles on the fuselage. It is seen on its first ever visit to Malta on 9th May 2025. Registered TF-AKG, the quadjet was originally delivered to China Airlines in December 2003 as B-18716. Remnants of the livery belonging to the previous operator can still be seen on the nose area.

Photo: Michael Kingswell

FlyTALK

Żebbuġ ZBG 1492, Malta +356 99397748

Any contributions to FlyTALK should be sent to info@mavio.org

From the Editor

Dear Readers,

Welcome to the second edition of FlyTALK. Following the warm reception of our inaugural issue, we're proud to deliver on our promise of a timely follow-up. With our third and final edition for 2025 scheduled for early October, we continue to spotlight the vibrant aviation community in Malta.

Since the successful launch of the MAViO Breakfast, a dynamic initiative led by MAViO board member Ms Marvic Bugeja, we've been busy documenting key stories shaping our aviation scene. At the event, we spoke with aircraft restorer David Polidano for an exclusive update on the Sea Gladiator Project. We also interviewed Malta Aviation Society President Massimo Farrugia and newly elected Island Microlight Club President Mark Laferla Jr. The response to the MAViO Breakfast was overwhelmingly positive, and we look forward to an even more impactful gathering in 2026; one that we hope will spark deeper conversations on aviation in Malta and the Mediterranean region.

Elsewhere, Falcon Engineering's designation as the official Diamond Service Centre for Malta and surrounding countries marks an exciting development. At their facility launch on Apron 3, we spoke with MAViO Award recipient Captain Ray Zarb and Business Development Manager Matthew Rota. We also had the privilege of interviewing veteran engineer Larry Scerri, who shared memories from decades spent working on classic aircraft like the DC-3, Armstrong Whitworth AW.660 Argosy, and Hawker Siddeley HS 780 Andover.

This year, the MAViO board proudly honoured Captain Lino Xuereb, a pioneering figure in Malta's business aviation sector. His contributions were recently featured across national television and media platforms.

As always, we hope you enjoy reading this edition as much as we enjoyed creating it and we welcome your thoughts, stories, and feedback.

Warm regards,

Editor-in-Chief

Chris Cauchi



NAMC YS-11: Japan's Last Civil Aircraft which Visited Malta for Maintenance

John Visanich

In the wake of the Mitsubishi Regional Jet project, subsequently known as the Space Jet being scrapped, the NAMC YS-11 proudly holds the title of the last civil aircraft to emerge from Japan, the Land of the Rising Sun. This twin turboprop airliner, powered by the reliable Rolls-Royce Dart engines, distinguished itself with impressive performance figures compared to its contemporaries in the Dart-powered segment. The YS-11's development spanned six years, evolving from initial drawings to its first delivery, a significant milestone for Japanese aviation. The name "YS" is derived from two Japanese terms: "YUSO," meaning transport, and "sekkei," meaning design, reflecting the aircraft's intended purpose as a reliable transport solution.

First unveiled to the public on December 11, 1958, the YS-11 marked a pivotal moment in Japan's aerospace history, demonstrating the nation's burgeoning capabilities in aircraft design and manufacture. As the last of its kind, the YS-11 remains a cherished symbol of Japan's aviation legacy, embodying both technological innovation and the spirit of a country rebounding from post-war challenges.

Once a relatively unknown entity beyond its home country, the Nihon Aircraft
Manufacturing Corporation (NAMC) has made a mark in the aviation world with the NAMC YS-11, Japan's first domestically built turboprop airliner. Initially, sales were concentrated within Japan, but over its impressive 12-year production run, the YS-11 managed to achieve notable success abroad, thanks in part to government-subsidised leasing programs.

The aircraft gained traction in Europe, where it was notably operated by Olympic Airways for island-hopping services. Additionally, Norway's Mey-Air utilised the YS-11 for around two years, further establishing its presence in international aviation markets. In Southeast Asia, the YS-11 was promoted as a form of war reparations, supported by schemes from the Japanese government that aimed to strengthen diplomatic and economic relations in the region. Despite NAMC's relative inexperience compared to established manufacturers such as Fokker, Fairchild-Hiller, and AVRO, the YS-11 proved its worth as a sturdy and reliable option for regional routes.

Of the 182 units produced, many YS-11 aircraft remained operational for over two decades, a testament to their durability. In Japan, the YS-11 is revered not just as an aircraft, but as a symbol of the Japanese economic miracle and the country's advancements in high-end technologies, marking a significant chapter in its aerospace history.



By any yardstick, the **NAMC YS-11**, designed and built by the Nihon Aircraft Manufacturing Corporation of Japan, is a rare aircraft. It is safe to say that, were it not for a brief period of time when MIACO at Safi provided maintenance on the type, we would never have seen it in Malta.



N187P YS-11A, Pyramid Airlines, "Red Sea Pacemaker" At Safi on 4 May 1983 for maintenance by MIACO



N217LC YS-11A Owner unknown. Stored at Tucson, Arizona, 29 April 1997



N924 YS-11A, "Republique Gabonaise", ex-Gabon Government Seen at Luqa Park 9 on 4 November 1979, shortly before going to MIACO for maintenance. A rarity by any standard



N169RV YS-11A, "Republique Gabonaise", ex-Gabon Government At Safi on 19 February 1980 for maintenance by MIACO



9041 YS-11M, 61 Squadron, Japan Maritime Self Defence Force At Naval Air Facility Atsugi, Japan, 20 August 1975. Photo by Isao Miyamoto



N159P YS-11A, Pyramid Airlines, "Nile River Pacemaker" Seen at Safi on 23 January 1980 for maintenance by MIACO



N219P YS-11A, Pyramid Airlines, "Sinai Pacemaker". "SUCO" (Suez Oil Co) logo and title on fin At Safi on 21 May 1984 for maintenance

At Safi on 21 May 1984 for maintenance by MIACO



N169RV YS-11A, Reeve Aleutian, ex-Gabon Government At Safi on 5 June 1980 for maintenance by MIACO



As I prepare to lead my second Malta International Airshow as president, I feel a mix of excitement, responsibility, and reflection. Having one edition already behind me, I know firsthand the challenges and rewards that come with organising such a major event.

The year 2023, my first as president, was a baptism by fire. Months of meticulous planning, countless meetings, and coordinating with international teams all came together; only for us to face something completely out of our control: the weather. Unfortunately, we were forced to cancel part of the flying display due to unsafe conditions. It was one of the hardest decisions I've ever had to make. Seeing the disappointment on the faces of spectators who had eagerly waited all day was heartbreaking. But as president, I knew safety had to come before everything else.

That experience shaped me. It taught me the importance of resilience, communication, and adaptability. It also reminded me that leadership isn't just about celebrating successes; it's aboutfacing tough moments head-on, learning from them, and coming back stronger.

Now, as we approach the upcoming airshow, I feel much better prepared. My team and I have been working tirelessly behind the scenes, fine-tuning every detail, from logistics to safety protocols to public engagement. We've strengthened our coordination with local authorities, air traffic control, and the participating international teams. We've also taken steps to improve how we communicate with the public in real time because last year showed us just how important it is to keep everyone informed, especially when things don't go as planned.

This year, we are incredibly excited about our lineup of participants. Among the highlights are the world-famous RAF Red Arrows, whose precision aerobatics are guaranteed to leave the crowd in awe. We're also proud to welcome the German Air Force with their iconic Tornado jets, known for their power and versatility, as well as the Spanish Navy's AV-8 Harrier, a rare and thrilling sight with its unique vertical takeoff and landing abilities. Having these international teams join us once again reinforces Malta's reputation as a key player on the global aviation stage.



I am incredibly proud of the team behind the Malta International Airshow. It's not just me, it's a whole network of passionate volunteers, sponsors, aviation professionals, and supporters who make this event possible. Their dedication, energy, and problem-solving spirit are what keeps this show alive.

Looking ahead, I am excited not only for the aircraft displays but for the atmosphere: the sound of engines roaring overhead, the sight of families and aviation enthusiasts lining the seafront, the chance to inspire the next generation of pilots, engineers, and dreamers. That's what drives us. Of course, I am realistic. We know that unforeseen challenges can arise, whether it's weather, technical issues, or last-minute changes. But having gone through it once, I feel we are stronger, wiser, and ready to adapt. My goal is simple: to deliver an airshow that Malta can be proud of, one that showcases the best of aviation while keeping safety, professionalism, and public enjoyment at the heart of everything we do.

I feel honoured to play a part in this journey. The Malta International Airshow is more than just a weekend event - it's a celebration of Malta's place in the aviation world, and a tribute to the passion that connects us all under the open sky. I can't wait to see what this next chapter holds.





Russian and East European **Delights**



RA-42439 Gazpromavia Yak 42D Landing RWY 32



5N-BOS Premium Air Shuttle Yak 40 Only PAS on the nose



ER-AXY Aeronord Grup Antonov 12BK Without titles but had WWW.ASTERIAS.COM.UA, www.aircharter.co.uk titles and an ACS logo. In later years this aircraft was noted at MIA in various different colour-schemes and operators

2005 continued the same trend from the previous years where several Soviet and East European aircraft types visited Malta International Airport. It was interesting to note not only the aircraft type but also the operators, which often were not around for a very long time. Let's have a look at some of these operators.



YL-RAD RAF Avia Antonov 26B Also had www.aircharter.co.uk titles & ACS logo



ZS-OSE Air Express Algeria (lsd from Aircraft Systems)
Let L-420 Turbolet Crossing from the public road at Safi to proceed from the airfield to the Medavia maintenance facility



YL-RAF RAF Avia Antonov 74TK-100 Angelica Agurbash photo, *Love Me Tonight* titles & Eurovision logo. Angelica Agurbash is a Belarusian singer who represented Belarus at the Eurovision Song Contest 2005

Gazpromavia, the only operator still around, is a Moscow-based airline operating passenger and cargo charters, mainly supporting the oil and gas industry.

VASO Airlines, a charter airline founded in 1999 by the Voronezh Aircraft Production Association, operated both corporate and commercial charters. It ceased operations in 2006.

Atlant-Soyuz Airlines launched in 1993 from Moscow Vnukovo Airport. Rebranded as Moscow Airlines in 2010, it ceased operations in 2011.

Elbrus Avia, founded in 1998, operated domestic flights with Yak-42Ds from Nalchik, Russia. Its licence was cancelled in April 2009.

Aeronord, from Moldova, had its AOC suspended in May 2007 due to poor safety standards and failure to meet international regulations.

Little is known about Kallat El Saker, a Libyan company set up around 2005 that vanished by 2010.

Nigeria's Premium Air Shuttle, founded in 1995, also disappeared in 2006 when its Yak-40s were grounded.

In 2005, two rare East European types were noted at Luqa. Both came from Let Kunovice, which produced the L-410 Turbolet, first flown in 1969 and still in production. ZS-OSE of Air Express Algeria was an L-420; a westernised L-410UVP-E20 built to US FAR-23 standards.

The Let L-200 Morava, a light twin from the 1950s, first flew in 1957. The L-200D was built to meet Aeroflot specs. Around 370 were produced before ending in 1964.

Now two unfortunate stories. ER-AXY of Aeronord Grup became UR-CAG of Ukraine Air Alliance. On 9th August 2013, it caught fire during start-up in Leipzig. The crew escaped, but 49,000 chickens perished.

5N-BOS of PAS became D2-FES of Angola's Guicango. On 31st January 2010, its undercarriage collapsed on landing at Luanda. All 37 on board survived, but the aircraft was written

More Soviet and East European surprises arrived in 2006. More in the next FlyTALK.



RD-GULL D&F Datensysteme Let L-200D Morava



RA-86115 Vaso Airlines

IL 86 On 4th August 1992 the aircraft had been noted at Luqa as SSSR-86115 of Aeroflot at Luqa



RA-82010 Polet Flight Antonov 124-100



RA-76429 MChS Rossii

IL 76TD Support aircraft for an SU-30, which stopped at MIA for an overnight stop while enroute to an airshow. In July 2006 this Il 76 was again at Luqa as support for SU-30s passing



RA-85740 Atlant-Soyuz

Tu 154M Totally different colour-scheme from RA-85736 seen a month later. This aircraft had visited Luqa on 26/11/98 as TL-ACF of Central African Airways



RA-42346 Elbrus AviaYak 42D Left-hand side, titles in Cyrillic alphabet, Right-hand side, titles in Roman alphabet



EZ-F426 Turkmenistan Airlines



RA-85736 Atlant-Soyuz Tu 154M Totally different colour-scheme from RA-85740 seen a month earlier



Air Sofia LZ-SFN

Antonov 12AP Without titles or logos and very



ER-ADG Kallat Elsaker Air

Antonov 12B All white, without logos, small titles in Arabic on the left, in English on the right, and small 00347109 under the tail



A few weeks ago, Chris asked me to write about my time at Medavia, what it meant, what it left behind. And yet, sitting down to put it into words, I find myself unexpectedly overwhelmed with nostalgia. I need to rewind a little, back to a time before I drove to Safi for work.

Back in 2000, I dropped out of university, chasing a dream to become a pilot. It wasn't meant to be. Faced with a crossroads, I either had to return to university or follow my passion from the ground up. That led to a short stint with Air Malta in ground handling. It didn't last long. Then I remembered seeing a job ad in the newspaper for an operations officer at Medavia. I sent in the application three days late.

Still, I got an interview with Stanley Bugeja, and somehow, I landed the job. The team was small but mighty; Stanley, Mark Shaw, Mark Iavarone, Mario Dingli, Hubert Camilleri, Claire Abela, who handled charter and ground operations, and the everpresent Mario Mifsud. The late Capt. Fawzi Baraasi was the chief pilot. I also had the privilege of working with Mr. Zmirli, Adrian Spiteri and Han Hippe who played pivotal roles in shaping my career.

My first tasks were humble: updating Jeppesen manuals, tweaking operational documentation, and juggling a wide range of requests. With just six of us in the department, there were no job titles, just jobs. We all did everything. It was intense, but in hindsight, it gave us priceless experience.

Libya became a second home of sorts. We managed the base there operating three Casa-212's and a brand new King Air 350. We normally headed out of our compound at 4:45 a.m. After morning dispatch, we spent the days planning the upcoming schedules, managing crew rosters, while waiting for HF radio calls from the fleet. Those calls were a lifeline, a signal that the day would go on as planned and that we might just make it to dinner.

Nothing could have prepared me for life in Libya. Luckily, I had experienced colleagues who had lived through the embargo period and endured dreaded ship trips to Tripoli. The 212s flew to unpaved airstrips deep in the Sahara, near oil camps. We established basic safety standards, but even then, some airstrips failed the 'runway proving' flights. Performance calculations were done by hand, on fading graphs, an art lost in today's digital age.



As Medavia grew, so did I. From a modest fleet, we expanded to include Beech 1900Ds, Dash 8s, and a Dornier 328. Suddenly, we weren't just a Maltese-Libyan outfit; we were international. That shift brought new cultures, new perspectives, and a valuable lesson in adaptability, one I carry with me to this day.

There was something uniquely collegial about the place. Colleagues became family, and that bond got us through tough times, especially in 2011, when trouble erupted in Libya. The big carriers pulled out. We stayed. Few people know this, but we were the only company flying into the country during the no-fly zone imposed by NATO. That commitment was our edge.

Sadly, Medavia wound down the AOC, a few years after I joined CAD. Even so, many of my former colleagues are still very much involved in the aviation world. It speaks to the strength of the team and the practical, hands-on experience we gained over the years. While formal training had its place, it was the daily problem-solving, teamwork, and shared experiences that really made the difference. Ironically, even now in Cologne, I keep bumping into people who once crossed paths with Medavia. It's a small world. But for those of us who lived it, Medavia wasn't just a job.





a. Two of Medavia's then fleet of CASA C212 Aviocar aircraft, namely 9H-AAP and 9H-AAR are photographed together on 27th May 2005 awaiting their next mission.

Photos: Anthony Seychell

b. One of the least known stories about Medavia is that in 2004/2005 it was commissioned to devise a plan, flying the CASA C212 on an air bridge to Gozo to increase accessibility to the sister island.

c.The CASA 212 proved to be an excellent platform for Medavia's operations in Libya. It flew into unprepared airfields in the Libyan desert and was also employed in medevac operations.



The Royal Air Force presence on Malta officially came to an end on March 31st 1979. In this two-part article we'll delve into the based and transient aircraft throughout the last ten years in Part 1, and Part 2 will feature some of the major exercises held by the RAF at the relatively busy RAF Luga.

The Royal Air Force (RAF) had two aircraft squadrons permanently based in Malta, both focused on providing the RAF with vital "eyes in the skies."

13 Squadron primarily flew the English Electric Canberra reconnaissance aircraft in two versions: the PR.7 and PR.9, with "PR" standing for Photo Reconnaissance. The PR.9 was considered the "sports model" of the Canberra, featuring more powerful engines and other improvements. The squadron retired its PR.9s in 1976, and by the time it left RAF Luga for good in October 1978, it was operating only the PR.7 and one (sometimes two) T.4 training aircraft to keep its pilots current. During its final decade in Malta, 13 Squadron typically operated a fleet of 8 to 9 jets. Today, 13 Squadron remains an active unit within the RAF, continuing its reconnaissance mission with a modern twist by flying the MQ-9A Reaper remotely piloted aircraft from RAF Waddington in Lincolnshire.

The other squadron hosted at RAF Luqa was 203 Squadron. This unit flew the mighty Hawker Siddeley Nimrod MR.1 aircraft in the antisubmarine role, which also included maritime surveillance and anti-surface warfare. The Nimrod was the best in the world for Anti-Submarine Warfare (ASW), it had 4 powerful jet

engines, could loiter for long hours on just two engines and had state-of-the-art avionics and weapons to help it achieve its mission. During this same period, with the Cold War still in full swing, 203 Squadron was constantly engaged in tracking Soviet submarines, both nuclear and conventional, which maintained an almost continuous presence in the Mediterranean Sea. The Nimrod was also tasked with Search and Rescue (SAR) duties, and it was not uncommon for the Maltese authorities to request the squadron's assistance whenever fishermen or other seafarers went missing. Throughout its time in Malta, 203 Squadron and its Nimrods remained on standby for such missions, playing a vital role in saving many Maltese lives. 203 Sqn was disbanded in December 1977 after fully leaving Malta that same year. In its later years it was reestablished as an SAR unit, flying Sea King helicopters in Cornwall and Wales for another few years.

Transient aircraft were many and varied. At that time Britain still flew a large variety of aircraft and as a base RAF Luqa needed to be continuously supported by transport aircraft which in those days included C-130 Hercules, VC-10, Bristol Britannia, Belfast and other similar passenger and cargo aircraft.

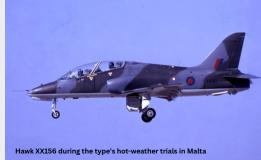












RAF Luqa was an ideal staging post for RAF aircraft flying to or from other RAF outposts like RAF Akrotiri in Cyprus and further afield. This meant that on many occasions, even fast jets needed to stop at Luqa en route to other final destinations.

One aircraft that was neither transient nor part of an exercise was the Hawker Siddeley Hawk, best known today as the aircraft flown by the Red Arrows aerobatic team. The Hawk, still in its very early years of flight development program was sent to RAF Luqa for hot weather trials. For us observers at the base, this came as a welcome surprise, especially considering the RAF had several other bases further east with even higher temperatures than Malta's. However, since this was a trial jointly conducted by the manufacturer and the RAF, Luqa was selected for this testing phase.

During its final decade of operation, RAF Luga also witnessed the arrival of brand-new aircraft entering service, such as the Anglo-French SEPECAT Jaguar. At the time, the RAF operated under various commands, including Transport Command, Strike Command, and Training Command. Luga hosted assets from nearly all of them, with the likely exception of Training Command, whose short-range aircraft made the journey to Malta impractical. One notable exception, however, was the appearance of Hawker Siddeley HS-125 T1 Dominies. These aircraft, used for training long-range pilots destined for transport or bomber roles, would occasionally arrive in formations of four as part of the trainees' syllabus in long-range navigation; a skill that would prove invaluable in their future flying duties.

As a fully operational military base, RAF Luga was equipped with most of the airfield infrastructure needed to accommodate all RAF aircraft in service at the time. This included a Rotary Hydraulic Arrestor Gear (RHAG) system and an end-of-runway barrier, both designed to safely stop mid-sized aircraft in the event of an overrun or other landing mishap. In the final decade of RAF Luga's operations, I don't recall the barrier ever being used to actually 'catch' an aircraft. However, the RHAG was activated on several occasions to help fighter jets come to a stop, typically after an aborted take-off, aquaplaning incident, or hydraulic failure. Other aids included foam laid on the runway to help aircraft with undercarriage problems land safely. In the last decade of RAF Luga, this was used only once, to assist the landing of a Boeing 720B airliner of Air Malta, which on that day was being operated by a Pakistan Airlines passenger jet.

As a teenager at the start of my aviation journey, the years 1971 to 1979 were truly formative in shaping my passion for the hobby. I consider myself fortunate that, although RAF Luqa was originally slated to close in 1974 under the terms of the 10-year defence agreement between Malta and Britain, a new agreement signed in March 1972 extended its operations by another five years. Historically, Malta and the Royal Air Force have achieved much together, and there remains a soft spot between the two, as shown by the RAF Luga flag with the motto Mitjar Qatt Mirbuħ still warmly greeting workers and visitors at the entrance of the Malta Air Traffic Services operations block.



Honouring a Pioneer: Captain Lino Xuereb

The name Captain Lino Xuereb resonates deeply within Malta's aviation community; a name synonymous with vision, tenacity, and a pioneering spirit. Widely regarded as the founding figure of Malta's business aviation sector, Xuereb's decades-long career has helped shape an entire industry from the ground up.

Captain Xuereb's aviation journey began with the Royal Air Force in Malta, where he maintained iconic aircraft such as the Hawker Hunter, the Nimrod, and the elegant VC-10. With Britain's military presence on the island winding down, he pivoted towards the cockpit, earning his Private Pilot Licence in 1980. From those early flying days, Xuereb's role in shaping local aviation soon became evident.



Throughout the 1980s and 1990s, he was instrumental in various Maltese aviation start-ups, but his defining moment came with the launch of EuroJet. At its helm, Xuereb became the first Maltese captain to fly a business jet based in Malta, setting a precedent for others to follow. His client list reads like a roll call of Malta's modern history, including former Prime Ministers and Presidents such as Edward Fenech Adami, Guido de Marco, Lawrence Gonzi, and Joseph Muscat. Notably, Xuereb flew the Maltese delegation home after the signing of the EU accession treaty, braving challenging weather to land safely at Luqa.

Beyond the flight deck, his influence extended to aviation infrastructure and investment. In 2010, Xuereb was key in bringing the MCM Group to Malta, resulting in the development of two aircraft hangars on Apron 3 at Malta International Airport, now vital to supporting high-profile clients like VistaJet.

In recognition of a lifetime of contributions, Captain Xuereb was recently presented with MAViO's Lifetime Achievement Award during the launch of FlyTALK, the organisation's new quarterly emagazine. Reflecting on the honour, he remarked, "The real joy isn't the award itself, but knowing that others still value the past."

Captain Xuereb's legacy is more than a list of accomplishments; it is the blueprint of Malta's transformation into a business aviation hub. His story continues to inspire a new generation of pilots and aviation professionals, as Malta charts a bold future in the skies.

































1mo •••



Genevieve Abela • 1st
EduWorld Malta: Innovating International Educati...
1mo • ⑤

Taking off from Salini Resort this morning with MAVIO's Business Breakfast—where aviation meets innovation.

As Malta pushes the future of flight forward, we're proud to be part of the journey, helping professionals communicate confidently at altitude.

Because clear communication isn't just important—it's critical.

AM Language | Aviation English. For those who don't just travel the world, but fly it.



The sky is not the limit—it's just the beginning!
We had a fantastic experience at MAVIO breakfast today, proudly representing our brands to the local market.
At JDV Co. Ltd., we offer expert technical support and consultation for your fleet's ground equipment. As official representatives of both LPA Aviation and RED Box Tools in Malta, we're committed to delivering innovation, quality, and reliability to the aviation industry. #MAVIO
#JDVCoLTD #LPAAVIATION #REDBOXTOOLS #aviation #Malta



Suzanne Chambers **②** · 1st

Partner and Managing Director, Gallagher (Malta) Li...

Another successful event MAviO very well done to all involved **



Chris Balzia Ø · 1st

Head Aviation Safety and Compliance at Civil Avia... $1mo \cdot \$$

Had a great time at the MAViO Breakfast last week—insightful discussions on eVTOLs and a great chance to connect with stakeholders in Malta's aviation community. Excited for what's ahead in this evolving space!



Mark Cali · 1st

Director Airline Sourcing at International Carrier Cons...

1mo • •

Many thanks to Chris Cauchi and the MAViO Team for the great organisation and the opportunity for IC Charter to attend today's breakfast event. ...more

Human Factors in Air Traffic Control

Ing. Alistair Paul Zammit Operations Specialist, MATS Ltd.

In the high-stakes environment of air traffic control (ATC), where the safety of thousands of lives is entrusted to split-second decisions, human factors play an indispensable role. While modern technology and automated systems have revolutionised the aviation industry, human performance, shaped by cognitive, emotional, and physical capabilities remains at the core of effective Air Traffic Management (ATM). Understanding and addressing human factors is essential to ensuring operational safety, efficiency, and resilience in global aviation.

HUMAN FACTORS IN AVIATION



Human factors in ATC refer to the range of psychological and physiological elements that influence Air Traffic Controller (ATCO) performance. These include decision-making, situational awareness, communication, fatigue, stress, ergonomics, and training. ATCOs operate in a complex socio-technical environment where even minor lapses can lead to significant safety hazards.

Recognising the limits and strengths of human performance is therefore crucial for designing systems, procedures, and environments that support optimal performance and minimise the risk of error.

The 2019 white paper titled 'Human Factors Integration in ATM System Design', published by EUROCONTROL in collaboration with DFS, emphasises the increasing importance of integrating Human Factors and Ergonomics into the design of ATM systems. With the ATM environment becoming more complex and technology-driven, the paper advocates for a proactive safety approach that prioritises successful human performance rather than just preventing error. It stresses that humansystem interactions must be considered early and throughout the design process to ensure that the resulting systems are safe, efficient, and usable in real world operational contexts.

To achieve this, the paper outlines nine principles for embedding human factors and ergonomics (HF/E) into ATM system design. It recommends forming joint design teams with HF/E as a core element, guided by a usercentred design approach. Iterative development with rapid prototyping and early, realistic evaluations should prioritise objective performance metrics. The principles also emphasise collaborative problem-solving, clear problem-setting, and involving HF/E experts in strategic decisions to ensure technology effectively supports operational needs.

Situational Awareness and Decision-Making

One of the most vital human factors in ATC is situational awareness, which refers to the ATCO's continuous perception of airspace, understanding of aircraft positions, and projection of future states. ATCOs must integrate real-time radar data, weather reports, flight plans, and pilot communications and a myriad of other factors to form a mental model of air traffic flow. Disruptions, whether due to overload, distraction, or misinformation, can lead to errors including a loss of separation.

Effective decision-making hinges on this situational awareness. ATCOs often face highpressure scenarios where rapid, accurate judgments are required. Decision-making can be compromised by stress, fatigue, or cognitive biases. By understanding the psychological processes behind decisions, training programs and system designs can better support ATCOs in making safe and effective choices.

Communication

Miscommunication between ATCOs and pilots is a leading contributor to aviation incidents. Clear, concise, and unambiguous communication is critical in the ATC environment. Human factors research emphasises the importance of standardised phraseology, active listening, and readback/hear-back protocols. However, even with strict protocols in place, communication breakdowns can occur due to cultural language differences, frequency congestion, distractions, or cognitive overload.

Human factors training focuses on improving communication skills and awareness of potential barriers. Furthermore, technologies such as data link communication, which supplements voice communication with text-based messages, has been integrated at MATS to reduce ambiguity and enhance clarity.

Fatigue and Workload Management

Air traffic control is a cognitively demanding profession requiring sustained attention and quick decision making. Fatigue from long shifts, night work, or insufficient rest can significantly impair vigilance, memory, and reaction time. Similarly, excessive workload, particularly during peak traffic or emergency situations, can lead to cognitive overload and reduce the ability to process information accurately.

Ergonomics and Interface Design

The physical design of ATC workstations, including ergonomics and interface usability, directly influences ATCO performance. Poorly designed interfaces, cluttered displays, or awkward input devices can increase the likelihood of errors. Human factors engineering ensures that the physical environment and software systems support intuitive interaction, minimise physical strain, and present information in a clear, accessible manner. MATS Operational Management continuously engages with its ATCOs to evaluate the design of existing and new software tools or features. The latest cognitive ergonomic assessment performed by MATS involved the evaluation of the HMI for the new Airfield Lighting Control and Monitoring System (ALCMS) software. By engaging with ATCOs at early stage, MATS was able to work closely with the aerodrome operator to develop an interface that facilitates and improves the work of the ATCO, minimising the potential for errors.

Training and Continuous Improvement

Given the complexity of their role, ATCOs undergo rigorous training that incorporates human factors principles from the outset. Simulation-based scenarios, stress management techniques, and decision-making exercises prepare them for real-world challenges. Ongoing training and re-certification help reinforce these skills and adapt to evolving technology and procedures.

Moreover, a safety culture that encourages occurrence reporting is key to continuous improvement. MATS adopts a rigorous human factors analysis of incidents and near-misses providing valuable insights into systemic weaknesses (for example aerodrome hot spots) and opportunities for change.

Way Forward

As air traffic grows and automation advances, human factors in ATC become increasingly vital. While automation can reduce some errors, it also introduces challenges like skill degradation and overreliance on technology. Keeping ATCOs engaged, informed, and empowered is essential for a safe, resilient system. Human factors are not just complementary; they are central to ATC safety. Investing in human-centred design, rigorous training, and fatigue management helps ATCOs succeed in their mission: keeping our skies safe.





It was a typical hot summer day in Malta. I stood at the Gardjola in Senglea, waiting for the USS Mount Whitney (LCC 20) to pull into the Grand Harbour. I was hoping to photograph the UH-3H Sea King that is usually stationed on the ship's deck. This particular version of the Sea King was quite rare, as it was configured for VIP transport. In fact, it served as the flying mount of the Admiral commanding the United States Sixth Fleet, which is responsible for operations in the Mediterranean and other regions.

While patiently waiting for the tugboats to head out and meet the ship outside the breakwater, I was also tuned in to Malta's airband frequencies. Out of the blue, the Sea King helicopter pilot radioed Malta's air traffic control tower, stating his intention to lift off from the deck of the USS Mount Whitney and proceed to Luqa Airport. A quick glance at the ship's flight deck confirmed there was indeed movement around the helicopter.

My main reason for positioning myself at Senglea was to photograph the helo. Now that there was a strong possibility the UH-3H wouldn't be on deck by the time the ship entered harbour, I jumped into my car and headed straight for the airport, hoping to catch it landing. But it was too late. The helicopter lifted off while I was still getting into my car.

Luckily, the helicopter was still parked on Stand 2 at the airport when I finally arrived. I walked in, took my photos, and headed back out. As I was leaving, I noticed a U.S. Navy officer standing in the shade by the door of the large hangar at Stand 2, but I didn't think much of it at the time.

As I was leaving, near the guard at the gate, I noticed another U.S. Navy officer speaking on the phone with someone from the Embassy. He was trying to give directions to Gate 1 at the airport, but not being familiar with the island, he wasn't guiding them very well. I asked if he needed help, and he explained that the Embassy driver couldn't find Gate 1 and asked if I could speak to him directly. Despite my efforts, the driver only knew the passenger terminal and couldn't understand where Gate 1 was or how to get there.

It turned out the officer at the gate was the aide-de-camp to the Admiral. That's when it hit me. The officer I'd seen earlier sheltering in the shade by the hangar was the Admiral himself. Another thirty minutes passed, and the driver still couldn't locate the gate. The aide-de-camp, clearly growing anxious with his Admiral waiting in the sun, reluctantly accepted my offer to help. At first, he politely declined a lift, but then quickly changed his mind and asked, "Could you kindly take me and the Admiral to the passenger terminal?" I told him my car was parked just outside the gate, so he returned to the hangar to fetch the Admiral.

Before leaving, I turned to the army guard at the gate and said, "Just so you know, an Admiral and his aide-de-camp are about to walk out through your post." The guard shrugged and replied, "I really don't care who they are or where they're going. So long as they're getting out and not coming in, they can do whatever they wish!"

This was becoming surreal. When I got to my dusty red Hyundai, with clutter all over the back seat, I quickly tried to tidy it up as best I could and drove to the front gate to meet the officers. They both got into my messy car without hesitation, and we set off toward the passenger terminal.

At first, the Admiral didn't say a word. Then he noticed a sticker on my rear window. It was from the Association of Naval Aviation, and he asked if it was the U.S. Navy association. I replied, "Yes, sir, it sure is." That seemed to break the ice. He immediately warmed up and started talking. He explained that the confusion was probably his fault. At the last minute, he had decided to fly into Malta rather than sail into Grand Harbour. This unexpected change had likely caused the Embassy staff to scramble to meet him at the airport instead of at the quayside.

Because there had been no prior notice and no indication that the Sea King was carrying a VIP, air traffic control had simply instructed the helicopter to park on a deserted Stand 2. As a result, no one was there to meet them.

The short drive from Gate 1 to the terminal ended with me approaching a bulletproof vehicle flying the U.S. flag and surrounded by VIPs. The aide-de-camp asked me to drive right up next to it, but I replied, "There's no way I'm going to park my car next to that." So I dropped them off about 50 metres away, and they walked over to their limousine.

About four hours later, I was at the DCA office when the duty manager received a phone call and couldn't stop laughing. After he hung up, he told me the U.S. Ambassador had called both MIA and DCA, furious that no one had gone to meet his Admiral. He had said, "How can a place just 17 miles by 11 manage to lose an Admiral?"

I like to think that our short conversation during that unexpected ride may have helped improve ties, because just a few months later, the very marine carrier I had mentioned to the Admiral arrived in Grand Harbour.

