IVIATION

ISRALPA

# September 2026

# New Chairman of the Israeli Pilots Association: Captain Hagai Mayer

**Captain Hagai Mayer was elected today as Chairman of the Israeli Pilots Association, succeeding Captain Meidan Bar, who has concluded eight years in office.**

**Iviation Editorial Staff**

Hagai Mayer, 60, is an EL AL captain who has served on the Council of the Israeli Pilots Association for the past 11 years. He also serves as Vice President of the International Federation of Air Line Pilots' Associations (IFALPA) for the Middle East.

Mayer brings with him extensive aviation experience, with more than 10,000 flight hours accumulated in military and civilian aviation. He served as a fighter pilot in the Israeli Air Force, commanded operational squadrons, and has held a range of instructional positions in both military and civilian aviation.

He also has considerable diplomatic experience, having served as the IDF Attaché and representative of Israel's Ministry of Defense in Italy, Greece and Serbia.

Following his election, the new Chairman, Captain Hagai Mayer, said:

"I am proud to assume the position of Chairman of the Association, and I would like to thank my predecessor, Captain Meidan Bar, who led the Association in becoming an influential organization within Israeli aviation and beyond.

"We are living through a complex geopolitical period in which aviation is a central strategic component—particularly for Israel, which is effectively an island nation and faces frequent fluctuations in its security environment.

"We will focus on the effort to ensure a strong and independent Israeli aviation sector; on supporting and developing the pilots of Israel's commercial airlines; on preserving and developing aviation infrastructure appropriate to an advanced nation; on safety issues, alliances and international relations; and on strengthening aviation and the broader flying community in Israel."


Hagai Meyer, Chairman of the Israeli Pilots' Association

# Working Together to Realize the Growth Potential of Israeli Airlines

**Captain Hagai Mayer was elected today as Chairman of the Israeli Pilots Association, succeeding Captain Meidan Bar, who has concluded eight years in office.**

**Captain Hagai Mayer**

Dear Pilots of the Association, Distinguished Readers,

First, I would like to thank Captain Meidan Barr, the outgoing Association Chairman, for eight successful and productive years in office. His tenure brought numerous achievements for the Association and for all Israeli pilots, and we wish him the best of luck on his new path.

Thank you for the trust you have placed in me by electing me to this position. I hope to serve the commercial and civil pilot community in Israel to the best of my ability, and to remain attentive and accessible to each one of you.

The complex geopolitical reality presents us with quite a few challenges, alongside a long list of issues awaiting our attention, including the upcoming elections and the security situation. I will do everything to ensure that even during this complex period, we continue to maintain our professional standing, and we will expand our cooperation with elected officials to bring them closer to the world of aviation.

Aviation in Israel is a strategic asset, and it must be treated and managed as such. The growth potential of Israeli airlines is immense, and we will work hand in hand with them to realize it. Ultimately, every growing airline brings with it more pilots joining the industry.

Looking at the broader picture, we view our cooperation with the private and sports aviation communities, UAS operators, and other entities as a cornerstone in building an educational and training infrastructure that will cultivate generations of blue-and-white pilots.

In the upcoming issues, we will elaborate on the challenges we face as members of the European and international associations. Perhaps one day we will also get to see a broad regional association in our "neighborhood" after all, aviation is a unifying and apolitical profession.

I wish you all a happy and sweet New Year, a year of health and prosperity.

Warm regards,
Yours and for you,
Captain Hagai Meyer
Chairman of the Israeli Airline Pilots Association

# Love of the Skies

**There are many moments during a flight when a profound thought crosses your mind, a significant question arises, or you experience a moment of inner stillness and reflect on the world in which we live: how wondrous and diverse it is, how much potential it holds alongside its disputes and problems; how much beauty lies spread across it, and how short the distance is between one scene and the next, between different landscapes - and also between calm and storm, serenity and conflict, the ability to live side by side and war, which can also be seen from the air**

**Captain Meidan Bar**

What is it that we pilots do in this world? That is the question. Over the course of an average airline pilot's career, we circle the globe several hundred times and are privileged to witness sunsets and sunrises in different places and at different times - sometimes on the very same day. In a single week, we pass through winter and summer weather systems, landing in sweltering heat after taking off from snow-covered runways on the other side of the world. The machines entrusted to us are nothing short of extraordinary: immense and powerful. We operate them with care and respect, as though an emotional bond existed between human beings and machines. That bond is evident when departing on a heavily laden flight or performing an especially challenging landing and any one of our working days can be precisely that demanding.

But what do we actually do in this world? We provide a service to the people who live in it, whether by ensuring that their cargo reaches its destination or by carrying the passengers themselves, seated in their hundreds in the cabin for hours at a time. They entrust their lives to us aboard a vehicle that cannot stop even for a moment, flying through an environment where there is no oxygen to breathe and where it is too cold to survive without knowing a single one of us. And yet, for so many years, this has appeared entirely normal and routine. Aviation may not be the world's oldest profession, but it is surely one of its most fascinating.

There are many moments during a flight when a profound thought crosses your mind or a significant question arises - whether while looking down at the Alps and their vast expanses of snow, the deserts of Africa, or the ocean that eventually meets the eastern coastline of America. These are moments of inner stillness and reflection on the world in which we live: how wondrous and diverse it is, how much potential it holds alongside its disputes and problems; how much beauty lies spread across it, and how short the distance is between one scene and the next, between different landscapes - and also between calm and storm, serenity and conflict, the ability to live side by side and war, which can also be seen from the air.

On a single flight across Europe, one can appreciate that most of the continent's land is still devoted to agriculture. On another flight, over South America, one can understand the importance of trees and rainforests to the oxygen we breathe. During a single crossing of Saudi Arabia, one can marvel at a female air traffic controller managing hundreds of aircraft in the airspace - when it was only in recent years that she was granted the right to obtain a driving licence on the ground.

For those who may not know, there is one emergency frequency in the skies, and it is always open, even between aircraft belonging to countries that do not speak to one another. It happens, it will happen, and it has happened. The world in the air is larger and more inclusive than those below might imagine.

Personally, whenever I look out from the cockpit, I too find myself wondering about my role in the world and what we are actually doing here, beyond the aviation work that I love as deeply as you do. My answer lies in the words that follow: I am leaving the cockpit after twenty years of extraordinary and challenging flights and thousands of legs around the world. I am entering public life full-time and joining Israeli politics.

It is the same political arena alongside which, in recent years, we have worked to advance Israeli aviation, promote the Aviation Law and participate in dozens of Knesset committee meetings concerning our profession. Few people leaving the cockpit choose to enter that arena. I, however, am about to embark on a new journey - one that will undoubtedly be fascinating and no less challenging.

Pilots of Israel, dear readers: even after the smoothest and gentlest landing, you never forget where you took off from. You are my home airfield, and I am now departing on a new and very different kind of flight. Aviation will remain my base, and you will remain my supportive family.

After eight years, I am proud to pass the baton to my colleague, Captain Hagai Mayer. To you, dear members of the Pilots Association and readers of this magazine, I have only words of gratitude - for reading, for taking an interest, and for your support and encouragement.

Aviation, in Israel and around the world, is not made up solely of pilots. It is a human fabric, an aerial mosaic unlike any other. What connects with its many different parts is a shared love of the skies and the endless fascination they continue to inspire.

A word about the platform on which you are reading these thoughts: the Israeli Pilots Association's magazine is a unique and successful undertaking. It is written in Hebrew for all of Israel's pilots, aviation enthusiasts and the wider public. On special occasions, it is also translated into English and distributed internationally.

Some of the finest writers, editors, photographers and production professionals work tirelessly to create it. I would like to take this opportunity to

honor them and express my profound appreciation—especially to Aharon Lapidot, the legendary aviation editor and the Pilots Association's aviation journalist.

Please carry on the tradition of our aviation magazine. Write and read it, distribute it and open it to new horizons. It will be there for you for many years to come.

With warm regards and deep appreciation,

**Captain Meidan Bar**

**Former Chairman of the Israeli Pilots Association**

# The Captain Moves to a Different Cockpit

**After seven particularly turbulent years, Captain Meidan Barr is stepping down as Chairman of the Israeli Pilots Association and embarking on a new journey—this time in the political arena. I am glad to say that I had the privilege of getting to know, at close quarters, a man who understood that pilots and aviation are not merely a profession or a sector, but an integral part of Israel's national resilience**

**Avi Benayahu**

Some positions are relatively easy to fill in times of calm and routine. Others test the person holding them precisely when everything once taken for granted is collapsing around him. Almost from the outset, Captain Meidan Barr's seven-year tenure as Chairman of the Israeli Pilots Association belonged firmly to the latter category.

I first met Lt. Col. (Res.) Meidan Barr many years ago. What began as a professional relationship gradually developed into a personal friendship, through which I came to know a hardworking, intelligent, focused and creative man—and, above all, someone with a profound understanding of responsibility. Now, as he steps down as Chairman of the Association and sets out on a new path in the political arena, this seems an appropriate moment to say a few words about the man, and about the journey he has made.

Barr took charge of an important professional association, but over the years his role became about much more than representing the interests of a professional body. The Israeli Pilots Association, founded in 1976 and affiliated with the International Federation of Air Line Pilots' Associations, IFALPA, represents a relatively small professional community, yet one of exceptional importance to a country that can, for all practical purposes, be reached from abroad only by air. Israel is, in this respect, an island nation.

Then came COVID-19.

Few industries were hit by the pandemic as severely as aviation. Aircraft were grounded, borders and airspace closed, thousands of employees were sent home, and airlines found themselves fighting for their very survival. In such circumstances, one could reasonably have expected the head of a pilots' association to focus exclusively—and justifiably—on protecting the livelihoods and rights of its members. Barr chose to take a broader view.

At the height of the crisis, he appeared before the Knesset and warned that Israel needed planning and certainty in aviation policy. In February 2021, when Ben Gurion Airport was effectively closed, he told the Knesset Economic Affairs Committee that aviation was one of the foundations of Israel's independence and that its potential extended across the economic, technological and tourism sectors. This was more than a slogan. It reflected a philosophy that would guide him throughout the years that followed.

The pandemic eventually receded, at least in its deadliest form. Then came the war—and demonstrated just how prescient that view had been.

Since October 7, Israel has repeatedly discovered what happens when foreign airlines suspend their services to the country. At one stage, of the more than 140 airlines that had served Ben Gurion Airport before the war, only a handful remained—most notably the Israeli carriers. Barr wrote at the time that “Israeli aviation is a strategic asset.” Anyone who followed events at Ben Gurion Airport during the war years understands that this ceased long ago to be merely the assertion of an association chairman seeking to protect his members. It is a reality with direct implications for national security, the economy, and Israel’s ability to remain connected to the world in times of emergency.

To my mind, this was one of the defining characteristics of Meidan’s tenure. He knew how to be a determined chairman of a professional association, but he resisted allowing the interests of the profession to become the only consideration. He consistently advanced the principle that Israel’s pilots and its aviation sector ultimately exist to serve the State of Israel—in civilian life and in military service—and that when professional and national interests converge, one must be capable of seeing the larger picture.

Even as his tenure drew to a close, he continued to deliver the same message. During a Knesset discussion in May this year, he warned that without fundamental reform of Israel’s aviation infrastructure, the country would not be prepared for the next crisis. He called for long-term regulation of state responsibilities and aviation infrastructure. “We will continue performing miracles instead of managing policy,” he warned.

That sentence encapsulates much of what he sought to accomplish during his seven years in office: to move Israeli aviation away from a culture of improvisation and survival and toward a coherent, long-term national aviation policy.

But Meidan Barr is more than the Chairman of the Pilots Association.

He comes from Israel’s rural cooperative tradition, a moshavnik from Havatzelet HaSharon who grew up in the Hefer Valley. He served for many years in the Israeli Air Force as a helicopter pilot, flew numerous operational missions and attained the rank of lieutenant colonel. Even after reaching the age limit for operational flying, he did not part ways with the Air Force and continues to serve in the reserves as a flight instructor at the IAF Flight Academy. In civilian life, he is an EL AL captain, a qualified attorney, and holds academic degrees in political science and education.

Flying—and military flying in particular—instills habits that tend to remain with a person long after leaving the cockpit: teamwork, mission focus, decision-making and, perhaps above all, debriefing. The purpose is not to determine who is to blame, but to understand what happened, why it happened, and what should be done differently next time. For Meidan, the culture of debriefing is more than a professional technique; it is almost a way of life.

He is sociable by nature and a genuine team player, with an exceptional ability to connect with people. Over the years, I have watched him speak with the same natural ease to a young pilot, a senior commander, a government minister, a member of the Knesset or a journalist. My mother, for example, absolutely adores him—and so does the rest of my family.

He knows both the Israeli and international media well, and during the war years became a familiar presence in television studios—as a commentator, as a

professional, and as someone capable of explaining a highly complex world to the public in clear and accessible language.

Behind that public presence, however, there is another side to him, one that is rarely captured by cameras. Over the years he has devoted considerable time to volunteer work and activities with young people, particularly in the fields of aviation, leadership and preparation for military service. He is an active volunteer with the Traffic Police, and during the war he also found time to visit and spend time with members of the local emergency response teams in Kiryat Shmona. As I have come to understand it, for Meidan public service does not begin when a camera is switched on, nor does it end when the camera is switched off.

He is now moving into an arena where the cameras are almost never switched off.

On July 27, Meidan Barr announced that he was joining Yisrael Beiteinu, led by Avigdor Liberman, effectively marking the end of his seven years at the helm of the Israeli Pilots Association. I have no intention of turning this farewell column into a political endorsement. Meidan is now entering a different arena, one in which his views and decisions will be subject to public scrutiny—as they should be for anyone who chooses a career in politics.

But I am pleased that he has decided to enter public life.

Israeli politics needs people who arrive after having already accomplished something in their lives—people who have managed, commanded, borne responsibility, weathered crises, made mistakes, debriefed them, corrected course and carried on. It also needs people who understand the difference between leadership and performance, between a slogan and a plan of action, and between “I” and “we.”

Meidan Barr enters politics with a substantial record of achievement across a range of fields, and above all with an intimate understanding of a concept that has become almost worn through overuse in Israel: service.

The world of aviation teaches a simple lesson. Even the most experienced captain does not fly an aircraft alone. There are crew members alongside him and entire systems supporting him, and before departure everyone must know the destination, the route, and what to do when something goes wrong.

I hope Meidan takes that lesson with him into politics.

May he remain a team player even when political instincts tempt him to become a solo act; may he continue to debrief and examine events even when assigning blame would be easier; may he retain his sense of statesmanship even when statesmanship is unfashionable; and may he remain resolute without ever losing the ability to listen.

**Dear Meidan: You are cleared for takeoff.**

# Farnborough: Records in the Air - and in the Order Books

**Firm aircraft orders worth $84.7 billion in just four days provide clear evidence of the commercial success of this year's airshow and of the recovery of the global aviation industry. A strong Israeli presence in the exhibition halls and one F-35 Adir in the skies: this was Farnborough 2026**

**Aharon Lapidot, Farnborough**

The Farnborough International Airshow, one of the world's most important aerospace events, was held in the United Kingdom last week with record figures underscoring both the industry's recovery and growing demand for aviation, space and defense technologies.

This year's exhibition featured 1,636 exhibitors, an increase of 15 percent over the previous edition in 2024, with 22 percent participating for the first time. No fewer than 63 percent of exhibitors came from outside the United Kingdom, making Farnborough the most international airshow on the global calendar.

The number of national pavilions also rose to 28, compared with just 21 two years ago. To accommodate the expansion, approximately 5,000 square meters of new exhibition space were added this year, including an additional exhibition hall and new outdoor hospitality areas.

The show closed with a record $84.7 billion in deals signed over four days.

In the contest for commercial orders, Boeing had a particularly successful Farnborough 2026, overtaking Airbus with 186 firm orders compared with 157 for its European rival. Boeing's performance was driven largely by major deals with Riyadh Air and leasing companies such as SMBC.

Israel's aerospace and defense industry also established a highly visible presence this year, despite the political and security challenges of the period.

Leading companies including Israel Aerospace Industries, Elbit Systems, Rafael and others displayed a broad range of advanced systems in unmanned aviation, air defense, precision weapons, electronics, space and AI-based solutions.

For the Israeli companies, Farnborough represents a strategic opportunity to expand international cooperation, advance new transactions and present customers from around the world with operational and technological capabilities that have been proven in combat in recent years.

Their participation underlines Israel's status as one of the world's leading technological powers in aerospace and defense, as well as continued global demand for Israeli-developed systems.

One of the world's most important stealth fighters, Lockheed Martin's **F-35A** - the aircraft known in Israel as the **Adir** - provided one of the show's most impressive flying displays. The F-35, which carried a significant share of the operational burden in Israel's recent war - or wars - with Iran, shook the exhibition halls as it demonstrated its aerodynamic performance and thrust-control capabilities.

Beyond the flying display itself, the F-35 stood at the center of many of the defense discussions at Farnborough, particularly regarding its future integration into distributed combat networks operating autonomous unmanned aircraft under Loyal Wingman concepts.

One of the stars of the show was undoubtedly the **Airbus A350**, whose ultra-long-range derivative, the **A350-1000ULR**, has since completed a historic record-breaking flight.

The aircraft departed Melbourne, Australia, and landed in Toulouse, France, home to Airbus' main production facilities, after flying no fewer than 23,075 kilometers nonstop—a new world record for a commercial passenger aircraft.

The flight, which lasted slightly more than 24 hours, was conducted as part of Qantas' **Project Sunrise**, the Australian airline's program to connect Australia nonstop with Europe and the United States.

At Boeing's static display, one of the most prominent aircraft was the advanced autonomous **MQ-28 Ghost Bat**, originally developed by Boeing Australia for the Royal Australian Air Force.

Designed around the Loyal Wingman concept, the UAV is intended to operate alongside crewed combat aircraft, providing protection, intelligence and tactical support. It incorporates advanced artificial intelligence.

In commercial aviation and logistics, Boeing displayed a **777 freighter conversion** in cooperation with global logistics giant DHL. In the flying display, Boeing also presented an extended-range variant of the **737 MAX**.

Several aircraft made their Farnborough debut this year.

**Bombardier Global 8000:** described as the fastest and most advanced business jet since the Concorde era, the aircraft made its world flying-display debut at Farnborough, demonstrating impressive performance and long-range capability.

**Vertical Aerospace VA-1X eVTOL:** a historic debut. For the first time in Farnborough Airshow history, an electric vertical-takeoff-and-landing aircraft conducted a public flight demonstration. The event marked a significant step in the evolution of Advanced Air Mobility from theoretical concept toward operational reality.

**Saab 340B “Gertrude” (GE Aerospace):** a unique test aircraft that flew with its right-hand engine replaced by a hybrid-electric propulsion system developed in cooperation with Boeing and Beta Technologies. The aircraft demonstrated the integration of electric power with conventional turbine propulsion in live flight.

**Beta ALIA CX300:** another electric aircraft, this time in a conventional takeoff-and-landing configuration, which conducted exceptionally quiet demonstration flights and showcased the growing maturity of electric aviation technology.

**Hongdu L-15, operated by Fursan Al Emarat:** the Chinese light attack and advanced trainer aircraft made its European debut, flown by the United Arab Emirates Air Force aerobatic team, Fursan Al Emarat.

It was the first time a Chinese-designed aircraft had performed a flying display over the United Kingdom, and the aircraft became one of the more closely watched attractions of the show, drawing considerable attention from the defense community.

One of the most notable trends at Farnborough this year was the shift away from physical exhibits—products and systems visitors can actually touch—and toward increasingly sophisticated digital presentations on large screens.

The rapid increase in digital performance and capability, combined with the expanding use of artificial intelligence, now enables companies to create highly immersive product demonstrations at a fraction of the cost of traditional physical displays.

For dedicated aviation enthusiasts, the flying display may therefore have been somewhat less exciting than in years past, with fewer aircraft thundering overhead and shaking the exhibition halls.

In the digital domain, however, the industry has advanced to the point where companies are seriously discussing the possibility of eliminating physical prototypes altogether and proceeding directly from a virtual model to serial production.

Two software giants that embodied this trend particularly well were France’s **Dassault Systèmes** and Germany’s **Siemens**.

Both companies also maintain significant and active operations in Israel.

# Civil and Military Air Battles

**Boeing enjoyed a highly successful Farnborough 2026, outpacing Airbus with 186 firm commercial orders compared with 157 for its European rival. Lockheed Martin says the F-35 is intended to remain in service through 2080, while deliveries for Israel's "third squadron" are expected to begin in 2028. And there is also a surprising dark horse: Brazil's Embraer**

**Aharon Lapidot, Farnborough**

Airshows have traditionally served as arenas of competition between the industry's giants—Boeing versus Lockheed Martin in the military sector, and Boeing versus Airbus in commercial aviation.

From a business perspective, Boeing had a very successful Farnborough 2026, overtaking Airbus with 186 firm commercial orders compared with 157 for its European competitor. This was driven primarily by major deals with Riyadh Air, Saudi Arabia's new airline, and leasing companies such as SMBC.

Lockheed Martin, meanwhile, brought to the flying display the fighter aircraft that naturally attracts more attention than almost anything else at the show: the F-35, which quite literally shakes the exhibition halls when it lights the afterburner.

In a conversation with senior company officials, Monessa "Siren" Balzhiser, an F-35 pilot with Lockheed Martin, she told me: "These aircraft are flying operationally with the United States, with Israel and with additional coalition forces around the world. We are seeing phenomenal F-35 performances across a variety of theaters and complex operations worldwide.

"The aircraft is doing exactly what it was designed to do: accomplish the mission and bring the pilots home safely. At the same time, we are continuously listening to feedback from the field in order to understand from the pilots how we can make the platform even better."

Amy Burnett, Vice President of F-35 Business Development, was cautious when asked about the possibility that the US administration might approve future F-35 sales to additional countries, Turkey among them.

"It is important to understand that all Foreign Military Sales, FMS transactions, are managed strictly on a government-to-government basis," she said. "Lockheed Martin is not a political organization, and we do not speak on behalf of the US government. It is the US government that makes the final decisions about which countries will receive the aircraft.

“Questions regarding the identity of potential future customers should therefore be directed to the F-35 Joint Program Office at the Pentagon or to the US government.”

Burnett added: “Our current production rate is stable at 156 aircraft per year. The Joint Program Office manages priorities and customer allocation within each production lot very carefully. We coordinate fully with them, but the final decision as to which customer receives its aircraft and when belongs exclusively to the JPO.”

One of the most widely discussed concepts in contemporary air warfare is known as **Loyal Wingman**, centered on operating F-35s alongside groups or swarms of unmanned aircraft.

“We are upgrading this aircraft in much the same way that we have upgraded the F-16 over the years, an aircraft that Israel also continues to operate very successfully,” Burnett said. “Through our advanced-development division, Skunk Works, and in cooperation with our allies, we are adapting the aircraft’s roadmap to the evolving requirements of the future battlespace.”

It is worth remembering that the F-35 itself is already two decades old. Yet it remains one of the most advanced combat aircraft of its type in the world.

“The F-35 was designed to operate at least into the 2080s,” Burnett said, “so it has a very long horizon ahead of it, and its roadmap includes continuous modernization.

“The major changes now center on Block 4 capabilities and on expanding integration - that is, connecting the F-35 to other systems and platforms across the battlespace and ensuring that critical information and data can move securely in real time. Threats are evolving almost on a daily basis, and we have to remain one step ahead.”

Israel currently operates 48 F-35s. The final two aircraft needed to complete the second squadron—and bring Israel’s total fleet to 50—are now in the final logistics stages with the Joint Program Office at the Pentagon and are expected to be delivered later this year.

Israel has ordered an additional squadron from Lockheed Martin, which will ultimately bring the fleet to 75 aircraft. Under the current schedule, deliveries for the third squadron are expected to begin around 2028.

**Boeing Outpaces Airbus**

In commercial aviation and logistics, Boeing displayed a 777 freighter-conversion program in cooperation with global logistics giant DHL.

By the end of the show, Boeing had overtaken Airbus in the order race, recording 186 orders compared with 157 for its European rival. Both manufacturers, however, continue to face severe constraints throughout the global supply chain.

Boeing’s new CEO, Kelly Ortberg, said during the show that the company would need “a few more years” to stabilize its financial position before it could launch an entirely new passenger aircraft.

At the center of Boeing’s military display was the advanced autonomous **MQ-28 Ghost Bat**, originally developed by Boeing Australia for the Royal Australian Air Force.

Designed around the Loyal Wingman concept, the UAV is intended to operate alongside crewed fighter aircraft, providing protection, intelligence and tactical support while incorporating advanced artificial intelligence.

Boeing’s commercial flying display was more restrained this year, with greater emphasis placed on safe maneuvering and low-speed handling characteristics.

The Boeing 737 MAX was particularly prominent. It participated in the daily flying display and demonstrated short-field takeoff performance and impressive low-speed maneuvering, intended in part to showcase the effectiveness of its two-stage aerodynamic flap system and its suitability for operations from shorter runways.

On the ground, Boeing focused particularly on advanced unmanned aircraft and on a preview of the future passenger experience.

Inside its official pavilion, the company created a number of technologically advanced immersive demonstration areas, including a full-scale 777X cabin section.

The interactive installation allowed visitors and airline representatives to experience the wide cabin, larger windows and enhanced ergonomics of Boeing’s next-generation flagship aircraft.

Airbus, for its part, displayed the **A350-1000**, the largest twin-engine widebody in its portfolio.

During the flying display, the aircraft performed short takeoffs, steep climbs and high-bank-angle maneuvers exceeding 60 degrees, demonstrating substantial power availability and impressive aerodynamic performance for an aircraft of its size.

As part of Airbus’ effort to emphasize sustainability, the A350 aircraft participating in the flying displays operated using a blend containing 30 percent Sustainable Aviation Fuel, or SAF, in support of the company’s broader strategy to reduce carbon emissions.

Airbus’ static display included aircraft from the A321XLR and A350 families. The aircraft—and particularly the A321XLR—were used to demonstrate the ability to connect distant city pairs that previously could not be served nonstop by a narrowbody aircraft.

Also on display was the **Airbus H160**, one of the newest models in the company's helicopter portfolio.

It stood out particularly because of its distinctive **Blue Edge** rotor blades, designed to reduce noise and vibration, as well as an overall configuration tailored to missions including search and rescue, emergency medical services and passenger transport.

In the military segment, Airbus displayed its well-established **A400M Atlas**, a heavy transport aircraft shown in active cooperation with the Royal Air Force and accompanied on the ground by Jackal military reconnaissance vehicles.

Airbus also unveiled an unmanned aircraft concept that attracted considerable attention: the **U760 Ravenstorm**.

The company presented the advanced UAV concept as part of its Collaborative Combat Aircraft, or CCA, work—unmanned combat aircraft designed to operate in conjunction with crewed fighters.

**The Third Player: Embraer**

This year's Farnborough International Airshow offered a clear indication of the deep structural changes taking place across the global aerospace industry.

While the two dominant manufacturers, Airbus and Boeing, continue to grapple with complex supply-chain challenges, regulatory delays and difficulties in increasing production rates, Brazil's Embraer is demonstrating consistent commercial and operational momentum.

With its order backlog at a historic high and aircraft delivery gradually increasing, the company is increasingly establishing itself as the world's third-largest aircraft manufacturer, while expanding its position in both the commercial and defense markets.

In commercial aviation, Embraer's strategy focuses on dominating the regional and small narrowbody segment.

The **E195-E2**, displayed at the show, is now regarded as one of the most efficient and economical aircraft in the small narrowbody category, thanks to low fuel consumption and competitive operating costs.

That advantage contributed to a number of significant follow-on agreements signed during the airshow.

Rather than attempting to compete directly with large widebody aircraft, Embraer is exploiting production gaps and capacity constraints among its larger competitors by offering airlines a readily available alternative for regional and medium-haul routes.

This strategy is also being reinforced by the company's entry into the cargo market, highlighted by the debut of the **E190F**, a dedicated freighter version intended to address growing demand in the express-logistics sector.

Alongside its expansion in the commercial market, Embraer is also establishing an increasingly significant position in the global defense sector through the **KC-390 Millennium** multirole transport and tanker aircraft.

During fly-past and flying displays at Farnborough, the aircraft demonstrated a combination of jet-speed performance with the ability to take off and land from short and semi-prepared runways.

The KC-390 is now positioned as a modern and advanced alternative to the long-established C-130 Hercules family and is increasingly challenging the decades-long dominance of the US aerospace industry in this market segment.

A central factor in the success of Embraer's military business is its growing penetration of the European market, particularly among NATO member states.

Shortly before the opening of the airshow, the Czech Air Force received its first KC-390, while additional agreements and strategic partnerships were announced in Europe during the show itself.

The Czech Republic's decision to join countries such as Portugal, Hungary, the Netherlands and Austria in selecting the aircraft indicates that Embraer has succeeded in establishing itself as a permanent and increasingly important participant in Western defense procurement.

The picture emerging from Farnborough is clear: the combination of stable production, an ability to meet immediate commercial requirements, and modern military technology is turning the Brazilian manufacturer into an influential and increasingly durable force in the architecture of global aviation.

# “Despite the War, Rafael Doubled Iron Dome Missile Production”

**Rafael CEO on competition with Turkey’s defense industry: “I don’t think we and the Turks occupy the same space. They are more in the low-cost segment, while we are more in the high-performance segment.” Elbit unveils a new concept: a UAV carrier; an F-35-derived helmet for F-16 pilots; and airborne laser systems for fighter aircraft and helicopters. Israel remains firmly on the map**

**Aharon Lapidot, Farnborough**

Israel’s aerospace and defense industries have established a highly visible presence at this year’s Farnborough International Airshow despite the political and security challenges of the current period. In sharp contrast to the deeply objectionable treatment Israel received from the French authorities at defense exhibitions in France, including the Paris Air Show, Euronaval and Eurosatory, the United Kingdom opened its doors to the Israeli defense industry.

Leading companies including Israel Aerospace Industries, Elbit Systems, Rafael, Aeromaoz, UVision and TSG are presenting a broad range of advanced systems at Farnborough in the fields of unmanned aircraft, air defense, precision weapons, electronics, space and AI-based solutions.

For the Israeli companies, the exhibition represents a strategic opportunity to expand international cooperation, promote new business and present customers from around the world with operational and technological capabilities that have been proven in combat in recent years. Their presence at Farnborough underlines Israel’s standing as one of the world’s leading technology powers in aerospace and defense, as well as the continuing global demand for Israeli-developed solutions.

During the show, I interviewed several senior executives from Israel’s defense industry.

Responding to reports suggesting that Israel had approached a critical threshold in its missile inventories during the war, Rafael CEO Yoav Turgeman said that despite the war, Rafael had doubled production of Tamir interceptors for the Iron Dome system and was meeting all requirements set by Israel’s Ministry of Defense.

Asked about reports of possible future production of Tamir interceptors in India, he said: “The Indians have not yet purchased Iron Dome. I assume that when they do, they will manufacture certain parts of it.”

Rafael arrived at Farnborough on the back of proven operational successes by several of its systems. These included the company’s SPICE 250 precision-guided weapons, whose extensive use in the war against Iran was

disclosed in recent days, as well as a Royal Air Force announcement issued one day before the opening of the show concerning the interception of a UAV over Jordan.

According to the RAF, the engagement involved a Rafael LITENING 5 targeting pod. The advanced pod guided the British weapon onto the target with high precision and enabled its destruction.

The fifth generation of the LITENING system can support not only relatively expensive air-to-air missiles but also much lower-cost rockets. This capability addresses a growing economic challenge for armed forces worldwide as drones and UAVs occupy an increasingly prominent role on the battlefield.

Regarding competition with Turkey's defense industry, which has attracted growing attention recently, Turgeman said:

"I don't think we and the Turks occupy the same space. I think they are more in the low-cost segment, while we are more in the high-performance segment.

"The international defense market is characterized by intense competition. Different countries emphasize different things. For some countries, cost is the critical factor. Others understand that they cannot afford to buy something cheap, because in the end, cheap can become very expensive.

"They have an industry that is heavily subsidized by the state, unlike ours, and they are trying to compete wherever they can."

Asked about Rafael systems' performance during the war, Turgeman said he was "very pleased with the way the systems performed," adding that Iron Dome and David's Sling had achieved interception rates "close to 100 percent."

He declined to provide precise figures "for obvious reasons."

**Elbit Systems**

Another highly visible Israeli company at Farnborough was Elbit Systems.

Elbit is developing a new UAV, the Hermes 650, including for the Israel Defense Forces. The aircraft belongs to the roughly half-ton class.

"This will be a workhorse—and militaries need workhorses," said Ran Kril, Executive Vice President for International Marketing at Elbit Systems.

"We are among the few companies in the world that still believe in the half-ton category. Most others have moved toward the extremes - either 100 kilograms or five tons. The smaller systems are limited in payload, while the larger ones are very expensive.

"You therefore need a system that can be produced in significant quantities and still deliver the required operational results."

Around the new UAV, Elbit has developed an interesting concept that it calls a “UAV carrier”—a long-range operational architecture designed to provide persistent protection for national assets.

One example presented is Portugal and the Azores, where such a concept could provide constant presence. The idea is to deploy UAVs aboard civilian or military vessels patrolling around the islands, thereby reducing the need for a permanent land-based presence or for US-style aircraft carriers.

Another advanced system displayed at the show was the **Zero-G helmet**.

Without delving too deeply into the underlying technology, the helmet is based on technologies originally developed by Elbit for the F-35 and subsequently adapted for use on earlier-generation, fourth-generation aircraft such as the F-16.

The helmet is significantly lighter than the F-35 helmet system, provides the pilot with a full-color display and brings selected fifth-generation capabilities into a fourth-generation cockpit.

Kril also discussed the laser component Elbit is developing for Rafael’s high-energy laser defense program.

According to Kril, Elbit is also developing mobile variants of the technology for installation on helicopters and fighter aircraft.

“During next year, development of the airborne laser demonstrator, ‘Sting,’ intended to intercept UAVs and drones, will be completed,” Kril said.

Elbit is developing two airborne laser systems: **XCalibur**, intended for fighter aircraft, and **Sting**, designed for helicopters. Both are intended to address emerging threats that have become increasingly apparent during the nearly three years of continuous war Israel has faced.

These podded systems are designed to intercept threats such as UAVs, drones and cruise missiles using directed-energy weapons.

The project is based on the laser engine developed by Elbit for the ground-based **Iron Beam** system, which is being developed by Rafael. Israel’s Ministry of Defense has already signed a formal contract with Elbit for the integration of these systems onto Israeli Air Force aircraft.

**Major US Contracts**

At the opening of the exhibition, Elbit announced that its US subsidiary, Elbit Systems of America, had been awarded several contracts by US Customs and Border Protection with a combined value exceeding $370 million, aimed at strengthening US homeland security.

The specific systems covered by the contracts were not disclosed, but the work is expected to continue through May 2029.

Bezhalel “Butzi” Machlis, President and CEO of Elbit Systems, said:

“These new awards demonstrate Elbit America’s continued contribution to strengthening US security and defense capabilities. Our advanced, combat-proven technologies are designed to provide reliable real-time situational awareness and help our customers address complex operational challenges.”

**Security Concerns in the UK**

On attacks against Elbit facilities in Britain by pro-Palestinian groups, Kril said:

“We have hundreds of employees in the UK across several sites, some of which are under threat. Naturally, we are investing considerable resources in the security of our employees, and we hope the situation will change soon.

“There is a gap between these demonstrations and the treatment we receive from the authorities. We feel that they listen to us and understand our security requirements.”

Pro-Palestinian groups also attempted to stage provocations outside the Israeli companies’ stands at Farnborough."

Some of the Israeli exhibitors were subject to pro-Palestinian Harrases. "During the exhibition, groups of pro-Palestinian activists came to the Israeli stands several times and tried to provoke incidents,” disclosed an Israeli representative at one of the stands, who asked not to be identified.

“They were usually groups of three or four. They would position themselves opposite the stand—they were, of course, not allowed to approach—switch on a camera and begin shouting verbal abuse: ‘Free Palestine,’ ‘How many babies did you kill today?’ and similar remarks.

“They try to provoke us, but we do not respond, and after a short while they leave.”

The representative stressed that these incidents stood in complete contrast to the attitude shown toward Israel and Israeli exhibitors by the Farnborough organizers, which she described as “excellent.”

# Digital and Virtual Twins

**In today's aerospace and defense industries, developing a new product is a race against time, cost and physical constraints. Two global technology giants, Dassault Systèmes and Siemens, are offering far-reaching AI-based solutions for design, manufacturing and product lifecycle management. Both companies also maintain a significant presence in Israel.**

**Aharon Lapidot, Farnborough**

One of the most conspicuous trends at this year's Farnborough International Airshow was the shift away from physical displays - products and systems that visitors can actually see and touch - and toward digital presentations on giant screens. The dramatic increase in computing performance and digital capabilities, combined with the rapidly expanding use of artificial intelligence, now makes it possible to create an immersive representation of a product at a fraction of the cost.

For genuine aviation enthusiasts, this may have made the flying display somewhat less exciting than in previous years, with fewer aircraft shaking the exhibition halls as they thundered overhead. In the digital domain, however, the industry has advanced to the point where companies are now discussing the possibility of dispensing altogether with the development of a physical prototype—and proceeding directly to serial production.

In this environment, artificial intelligence is far more than a static tool for collecting or analyzing data. It functions as a driving force, pushing engineering toward higher-quality and more innovative solutions. AI can propose new approaches to complex engineering challenges and evaluate alternatives almost instantaneously. Yet, as Alexis Valois emphasizes, one critical principle remains unchanged: the human being stays at the center of the process. The system is designed to make specialized knowledge more accessible and to automate processes, but control, oversight and final approval of complex solutions remain firmly in the hands of the human engineer.

### Dassault Systèmes

In the modern aerospace and defense industry, developing a new product is, by definition, a race against time, cost and physical constraints. Alexis Valois, Business Development Executive with the Aerospace & Defense team at software giant Dassault Systèmes, presented us at the Farnborough International Airshow with a vision in which the very concept of a "physical prototype" may eventually become a thing of the past.

Through its 3DEXPERIENCE platform, and by bringing artificial intelligence into the very heart of industrial processes, the company is driving an industrial transformation based on managing a “Virtual Twin” throughout the entire product lifecycle.

To understand the scale of this change, it is first necessary to distinguish between the familiar concept of a **Digital Twin** and what Dassault Systèmes calls a **Virtual Twin**.

Valois explains that Virtual Twin is not merely a passive collection of data, nor simply a graphical representation showing what a product looks like at a given moment. Rather, it is a living, reusable model enriched with the product’s complete historical and operational information.

According to Valois, this model makes it possible to run advanced simulations, assess future scenarios and derive lessons from past performance. In doing so, it becomes a vital repository of experience and knowledge that can inform subsequent developments.

A deeper look into the platform’s engineering environment reveals a complete three-dimensional representation of the product, directly linked to the entire Bill of Materials (BOM). This environment is immediately available to relevant users throughout the organization and can also be extended to external suppliers requiring access in order to design specific components. Beyond engineering itself, the platform manages the full range of required governance and control processes.

One of the system’s notable strengths lies in its collaboration environment. Data within the platform serves as a central mechanism for connecting the different disciplines involved in a program. By navigating internal communities—something akin to a corporate social network—teams can develop ideas and consolidate informal information in order to gain a better understanding of market trends, technical requirements and the maturity levels of different technologies.

These ideas can then evolve into defined projects. Rather than merely presenting conventional scheduling documents, the system manages each task and deliverable as an independent object within the database.

This object-based approach creates what Dassault Systèmes describes as **Digital Continuity**, ensuring consistency throughout the different stages of development. An engineer can select a particular component and immediately obtain a visual graph showing the original requirements that led to its design, move directly to the relevant simulation data, and retrieve the necessary validation or manufacturing files.

The process bridges the gaps between distributed information systems and can save considerable time.

Bringing all this data together under a single digital environment also creates fertile ground for automation and Generative AI capabilities. During detailed design, the system offers what Dassault Systèmes calls **Virtual Companions**.

If a designer needs to modify a parameter - for example, the number of patterns or features in a sheet-metal panel - the Virtual Companion can analyze the change and automatically update the design accordingly.

The same approach extends into manufacturing engineering. After all, there is little value in designing an exceptional product if it cannot be manufactured correctly and efficiently.

Here, the Virtual Companion can be used to define work instructions and the sequence of operations required to assemble components - for example, attaching wheels to a central axle. Developing such assembly scenarios is traditionally a laborious and time-consuming task for manufacturing engineers. Automating the process can significantly shorten the development cycle, translating directly into major savings in both time and money—particularly given the exceptionally high costs associated with aerospace manufacturing.

What makes this degree of automation possible is not generic artificial intelligence of the kind familiar to the general public. Instead, it relies on **Industrial World Models**, in which deep industrial knowledge is embedded within the platform itself.

In this sense, AI within the system is much more than a static tool for gathering or analyzing information. It serves as a driving force, pushing engineering toward higher-quality and more innovative work. It can generate new solutions to complex engineering challenges and evaluate alternatives virtually instantaneously.

Valois, however, stresses one critical point: the human factor remains at the center.

The purpose of the system is to make specialized expertise accessible and automate appropriate processes. But control, oversight and final approval of complex solutions always remain the responsibility of human engineers.

Eli Boikis, Managing Director of Dassault Systèmes Israel, summed up the company’s experience:

“Following more than 300 meetings with customers, primarily from the aerospace and defense industries but not exclusively, we can say unequivocally that customers are looking for the solutions of tomorrow. They want to leverage artificial intelligence together with their own intellectual property, using their own data and within their own working environment.

“Dassault Systèmes’ 3DEXPERIENCE platform and the Virtual Companions integrated into it enable customers to benefit from the collective memory of an entire industry, while giving managers and engineers the ability to explore

multiple possibilities, shorten processes and achieve zero defects—all without compromising the security of the organization's most sensitive information.

"This is the future of engineering, and I believe our customers have now seen that the future is already here."

**Siemens**

Another company offering engineering design and management tools for complex programs is Siemens.

Siemens' broader vision begins with a radical simplification of even the most complex design processes. Joe Bohman, Executive Vice President for PLM Products at Siemens Digital Industries Software, explained during our meeting at the Farnborough International Airshow that the integration of Generative AI into the Siemens Xcelerator platform is fundamentally changing the way engineers can work.

The objective is to enable a human engineer, using simple, natural language, to ask the system to design complex components and systems - ranging from an aircraft wing or an unmanned aerial vehicle to advanced defense systems.

During our interview, Bohman also addressed Siemens' presence in Israel. The company has a substantial footprint in the country; indeed, a significant part of its global product-development organization operates out of Israel.

"I was so impressed by the Iron Dome system, and I am very proud that we were part of it through our software," Bohman said, adding unequivocally that the company feels no pressure or reservations regarding its extensive presence in Israel.

In fact, Siemens' entire industrial software organization is managed directly from Israel by Zvi Feuer.

Feuer, Managing Director of Siemens Industry Software Ltd. Israel, elaborates on the company's local operations and provides some perspective on both its scale and the industries it serves.

Siemens employs approximately 400 people in Israel and around 2,000 worldwide in the field of industrial software. The company provides solutions to 13 different industries, including aerospace, defense, pharmaceuticals, bioscience, and food and beverage.

Siemens is also ranked as a global leader in robotics and has recently made major strides into the field of humanoid robots. At the same time, it is one of only three companies worldwide offering a comprehensive solution for the digital manufacturing of semiconductor chips.

Feuer and Bohman explain that Siemens' strategy is built around one central concept: the **Comprehensive Digital Twin**.

Siemens has invested more than €25 billion in building and acquiring the capabilities that make up this ecosystem.

The Digital Twin enables customers to construct a complete and highly accurate virtual model of a production floor - or of the product itself - before spending a single dollar in the physical world.

The system accompanies the manufacturing process throughout its lifecycle, supporting it at every stage and even proactively proposing modifications and improvements that the human engineers themselves may not have considered.

Among Siemens' major customers worldwide are some of the most prominent names in aerospace and defense, including Lockheed Martin, Boeing, Northrop Grumman, Ariane and Rolls-Royce.

In Israel, the company works closely with the country's leading defense companies—Israel Aerospace Industries (IAI), Rafael Advanced Defense Systems and Elbit Systems—as well as major civilian companies such as Strauss.

# Record-Breaking Aircraft: 23,075 km Nonstop

**An Airbus A350-1000ULR has successfully completed a record-breaking test flight, landing in Toulouse, France, after departing from Melbourne, Australia. The flight was conducted as part of Australian carrier Qantas' Project Sunrise, which aims to operate nonstop ultra-long-haul commercial services between Australia and Europe and the United States.**

**Iviation Editorial Staff**

The Airbus A350-1000ULR has broken the official world record for the longest nonstop flight by a commercial passenger aircraft, covering an extraordinary 23,075 kilometers without landing. The previous record was set in 2005 by a Boeing 777-200LR, which flew 21,601 kilometers. The A350 flight lasted exactly 24 hours and 24 minutes.

The aircraft departed Melbourne and headed east across the Pacific Ocean, crossed the United States and then the Atlantic before landing at Airbus' facilities in Toulouse. Over the course of the flight, the aircraft crossed three continents and two oceans.

The flight attracted enormous public interest. More than 3.6 million people tracked it in real time on Flightradar24, making it the second-most-followed flight in the platform's history.

The ULR - Ultra Long Range - variant incorporates specific structural modifications, most notably an additional 20,000-liter rear center fuel tank. The flight demonstrated the ability of these systems to operate as intended under maximum takeoff-weight conditions and during prolonged fuel-management operations.

Flights lasting more than 20 hours require particular attention to the physiological and operational needs of both crew and passengers. Accordingly, the flight was also used to evaluate the aircraft's environmental-control systems and its new Twin Flight Crew Rest Compartment, designed to enable pilots to rotate through duty and rest periods efficiently on ultra-long-duration flights without disturbing one another.

Aviation safety authorities, including the US Federal Aviation Administration (FAA) and the European Union Aviation Safety Agency (EASA), impose stringent requirements designed to mitigate the risks associated with extreme crew fatigue.

The services will be operated by four pilots, two captains and two first officers, who will rotate through duty periods during the flight. Airbus has developed a dedicated flight-crew rest compartment located directly above the cockpit. It

includes two full-length bunks, a padded seat and entertainment screens. Access to the compartment is controlled to ensure a quiet and isolated rest environment.

Cabin crew will also have dedicated rest facilities. At the rear of the aircraft, in the upper fuselage above the passenger cabin ceiling, is a cabin-crew rest area containing six individual bunks with blackout curtains, independent climate control and a continuous intercom connection to the passenger cabin for use in an emergency.

The flight forms part of the aircraft's formal certification process with EASA. Deliveries of the first aircraft to Qantas are expected to begin in April 2027, enabling the airline to launch nonstop commercial services of approximately 19 to 22 hours from Sydney and Melbourne to London and New York.

In doing so, Qantas intends to overcome what Australians have long called the "tyranny of distance"—the need for intermediate stops that can add approximately three to four hours to the overall journey.

**How Much Will It Cost?**

Qantas is investing billions of dollars in Project Sunrise and intends to charge a significant premium for the nonstop services, reflecting the substantial time savings they offer.

The airline has ordered 12 dedicated A350-1000ULR aircraft. At list-price values, before substantial volume discounts normally negotiated between manufacturers and major airline customers, aircraft of this type are valued at hundreds of millions of dollars each, placing the notional value of the transaction at more than $4 billion.

Qantas has invested tens of millions of dollars more in medical research conducted in cooperation with the University of Sydney, examining the effects of jet lag, as well as in redesigning the aircraft interior and funding ultra-long-range test flights.

Qantas has indicated that it expects to charge a premium of approximately 20 to 30 percent for these nonstop services compared with connecting itineraries via hubs such as Singapore or Perth. Even so, industry estimates for one-way fares on a nonstop Sydney–London service are broadly within the range expected for premium long-haul travel:

**First Class:** from more than $14,000, for private luxury suites.

**Business Class:** approximately $10,000, for enclosed suites with individual doors.

**Premium Economy:** approximately $4,000, with enhanced seat pitch and additional legroom.

**Economy Class:** from approximately $1,600.

**Special Meals and a Wellbeing Zone**

Passengers, too, will receive special treatment.

First and foremost, the aircraft will offer substantially more space per passenger across all cabins. Whereas a conventional A350-1000 typically accommodates between 350 and 410 passengers, the ULR configuration will have only 238 seats - less than 60 percent of the type's typical capacity, in order to reduce weight and significantly improve passenger comfort.

To mitigate the effects of remaining inside an aircraft for close to an entire day, Qantas has introduced a distinctive concept: the **Wellbeing Zone**.

Located in the center of the aircraft between the Premium Economy and Economy cabins, this dedicated area will allow passengers to stretch, loosen stiff muscles and stimulate circulation. It will be open to passengers in all classes and will feature integrated handholds for stretching exercises, screens displaying guided movement and exercise routines designed to promote blood circulation, self-service hydration stations and specially selected snacks.

The aircraft will also feature an intelligent LED lighting system designed to simulate, gradually, the light-and-dark cycle at the destination. The objective is to help reset passengers' circadian rhythms and minimize the effects of jet lag.

To justify a First-Class fare exceeding $14,000, Qantas has completely redesigned its premium passenger experience.

The aircraft will feature only six First Class suites in a 1-1-1 configuration. They have been described as "mini apartments" in the sky. Unlike many conventional First-Class products, where the seat itself converts into a bed, each Qantas suite will feature both a wide reclining armchair and a separate, permanently available two-meter fully flat bed. Passengers will therefore not need to wait for the crew to convert their seats into a sleeping surface.

Each suite will be fully enclosed by high sliding doors, providing a high degree of privacy. It will also include a large 32-inch 4K touchscreen, a private wardrobe, personal storage drawers and wireless charging facilities for mobile devices.

The human body functions differently at 40,000 feet, particularly when passengers remain airborne for nearly an entire day. Medical research conducted by Qantas has indicated that both the type of food consumed and the timing of meals can have a significant influence on passengers' circadian rhythms.

Qantas has therefore developed a science-based menu specifically for its ultra-long-haul passengers. The airline is working with renowned Australian chef Neil Perry and researchers from the University of Sydney to create meals intended to reduce the burden on the digestive system while promoting either sleep or alertness according to the stage of the journey and destination time.

Meals intended to encourage sleep will include ingredients rich in tryptophan, such as chicken, dairy products and fish. The menu will also make greater use of natural ingredients and spices such as ginger, intended to help reduce nausea and support circulation, while salt levels will be reduced to mitigate dehydration and bloating.

Immediately after departure, passengers will receive a light meal timed according to the corresponding hour at their destination rather than their point of origin. The intention is to encourage the body and brain to begin synchronizing with the destination time zone as early as possible.

**Entering Service Next Year**

Under the current schedule, deliveries of the first fully outfitted commercial aircraft to Qantas will begin in April 2027.

The first official Project Sunrise route, between Sydney and London Heathrow, is scheduled to launch toward the end of 2027. The nonstop flight is expected to take approximately 22 hours.

The Sydney-New York JFK service is expected to follow shortly afterward, with a flight time of approximately 21 hours.

The next phase is scheduled to begin in 2028, following delivery of the remaining aircraft in Qantas' 12-aircraft order. The airline intends to introduce nonstop services from Melbourne to London and New York, while also evaluating direct routes to continental European destinations such as Paris and Frankfurt.

At present, Qantas is the only airline to have ordered the specific A350-1000ULR sub-variant equipped with the increased fuel capacity required for Project Sunrise. There is, however, broader international interest in the aircraft and potentially a substantial market for the concept.

Airlines such as Turkish Airlines and major Gulf carriers, including Emirates and Qatar Airways, are examining ultra-long-range aircraft capabilities for potential nonstop services to particularly distant destinations in South America and Oceania.

Singapore Airlines, meanwhile, already operates the smaller A350-900ULR successfully on its nonstop Singapore–New York services.

The commercial success of Qantas' Project Sunrise operation could therefore become an important test case for the industry and potentially generate additional orders for the larger A350-1000ULR from other global airlines.

# From Airfields to the Backcountry: Two Sides of the Joy of LSA Flying

**Light Sport Aircraft flying can mean very different things to different pilots, yet the same common thread always runs through it. Some prefer an established airfield and a flight to a familiar destination. Others would rather take the aircraft into the open country, land where there is no runway, and spend the night under the stars.**

**Esti Peshin, Chair of the Israeli Sport Aviation Association, and Davidi Hollander**

The two stories that follow illustrate the dual nature of sport aviation. For those who prefer the backcountry, there is the backcountry. For those who prefer established airfields, there are established airfields. What matters is the joy of flying.

**A Flight to Masada**

The excitement, in truth, begins sometime in the middle of the week. As the weekend approaches, you make your first check of the forecast, arrange to fly with a partner, and already have the outline of the flight taking shape in your mind.

The weekend arrives. Early morning. You reach the Rishon LeZion airfield. The club is already coming to life. Friends meet before their flights, exchange weather observations and tips, and discuss their plans for the day. You open a flight plan on the club computer and, after a few more words with the others, walk over to the hangar to pull out the aircraft.

A glance at the windsock and the sky. Light southerly wind. No cloud. A beautiful day.

The plan is to fly to Masada. You have submitted the flight plan through the app and received your clearance. You have checked the weather and NOTAMs. Everything looks good. From this point on, it is in your hands. You brief yourself.

You open the hangar and pull the aircraft outside. Fortunately, it is first in line. This is sport aviation, after all—you move the aircraft yourself.

Now comes the inspection. The responsibility is yours. You remove the engine cowling and check the oil, coolant and brake fluid. The springs are in good condition. No leaks. Everything is where it should be. You walk around the aircraft carefully, inspecting it thoroughly, and sum up the fuel to make sure it is clean and free of water.

Everything checks out.

You climb aboard, fasten your harness, start the engine, make a blind transmission on the airfield frequency and taxi to the threshold. It is 0700.

Pre-takeoff checks. You make your call, line up, advance the throttle and begin the takeoff roll. RPM is normal. Airspeed is alive. Thirty knots—and you are airborne. Right rudder in the climb. You depart Rishon at 400 feet and join the route toward Masada.

You pass the Nesher factory, continue along the route and climb to 1,600 feet toward Latrun, with Mini Israel visible off your right side. At this altitude, you can make out individual details on the ground.

You continue climbing toward Jerusalem. At Shoresh, you are at 2,800 feet. ATC clears you to cross the city at 3,500.

It does not get much better than this.

Below, you can see a traffic jam beginning to build. You feel for the drivers trapped down there as you pass overhead in the clear morning air. Looking to the right, the Old City opens out before you. Jerusalem of Gold glitters in the rising sunlight.

You cross the city, enter the Shalem VFR bubble and begin your descent. Now you are flying low over the dramatic landscape of the Judean Desert. A short turn over the Mar Saba Monastery, and you set course for the escarpment and the Dead Sea VFR bubble.

You descend toward the sea.

The altimeter reads minus 400 feet.

Yes, minus 400.

You are below mean sea level and still 800 feet above the surface of the Dead Sea. The shoreline is spectacular.

Ein Gedi lies ahead. Time to switch to the Masada airfield frequency. Masada rises in front of you, almost as though it were assessing your flying.

The airfield operator answers your call. Runway 19 is in use. Straight-in final.

You descend to minus 800 feet. The runway is ahead. Glidepath looks good. Airspeed is right. You close on the threshold, begin the flare, hold the nose off—and touch down as softly as butter on a summer day.

A beautiful flight.

**Coffee, Aircraft and Stars**

It is midday at the airfield. As happens every year, a meteor shower is expected tonight. We file a flight plan for the Negev on a mobile phone. A check of the forecast shows a northerly tailwind and no cloud.

We inspect the aircraft carefully. It will have to look after us during off-airfield landings today and tomorrow.

My daughter is joining me for the flight. That alone adds to the excitement—a chance for some real father-daughter time.

We take off and head south. Friends join us, and we continue in formation. A little over an hour later, we land on an abandoned dirt strip somewhere in the southern Negev. Friends from other airfields join us there as well.

The sun will soon set, and we begin pitching our tents. Each pair settles beneath the wing of its aircraft.

Coffee. Dinner together in the open country. Stories, beers, flying experiences and plenty of laughter.

Darkness falls. We lie back on our mattresses and look upward. We deliberately chose a location with very little light pollution. The Milky Way is clearly visible, surrounded by a sky filled with countless stars.

Every so often, a meteor from the Perseid shower streaks across the sky.

Then another.

And another.

Eventually, it is time to sleep.

Five in the morning. We wake, pack up, make coffee—and take off with the sunrise.

The canyons turn red in the first light. This is the hour when desert wildlife emerges in search of water before the heat of the day sets in. We encounter gazelles, onagers, wild asses and even a single Arabian oryx. Naturally, we keep our distance so as not to disturb the animals.

We land on a track near Nahal Tzihor, somewhere in the southern Negev. Breakfast—and, of course, coffee—in the shade of a tamarisk tree.

Now we can begin making our way north.

This time we fly via Nahal Nekarot toward the Arava, then continue north at low altitude along the Dead Sea. Once again, we discover the “secret river” cutting across what was once the Lisan Peninsula, and continue along the shoreline.

Every sinkhole has its own colour. The most striking of all is pink.

We begin climbing. We pass over southern Jerusalem, and the landscape changes almost instantly: the yellows and browns of the desert give way to the green of the Judean Hills.

Home is not far away now. Soon we are back in the circuit at the airfield.

Engine off. We push the aircraft back into their places.

We return tired—but full of experiences.

**The Joy of LSA Flying**

There is something about flying an LSA that is difficult to explain to someone who has never experienced it, and immediately obvious once you have.

It is not simply flying. It is a return to flying in its most fundamental form. Pure stick-and-rudder aviation.

No ground crew. No operations department. No technical crew.

Just you, the aircraft, the sky and the landscape.

You check the oil. You decide whether conditions are suitable for flying that day. You speak to ATC. You make the decisions.

That degree of aeronautical independence begins well before takeoff. The aircraft is yours—either wholly owned or held in partnership—and the responsibility that comes with ownership, which might at first appear to be a burden, is in fact part of the reward. It is one of the reasons LSA aircraft tend to be well maintained, clean and, quite often, relatively new.

There is also a strong social dimension. At the hangar, you are constantly meeting fellow club members who fly as well. You fly together, sometimes in coordination, learn from one another and plan future flights together.

It is more than a hobby. It is a community.

The availability of the aircraft and the relatively low cost per flight hour also make it possible to fly much more frequently, build experience and maintain a high level of proficiency. At the most basic level, the low-altitude flying characteristic of LSA operations creates an immediate connection with the landscape that is difficult to experience from the cruising altitude of a larger general aviation aircraft.

And although the aircraft may be small, that does not make it any less serious.

Many modern LSA types are equipped with glass cockpits and compare favourably with light general aviation aircraft; in some cases, they even outperform them. As a pilot holding an LSA endorsement, you can fly both the dedicated LSA routes and, with the appropriate ratings and qualifications, the conventional general aviation routes.

What differs is the nature of the flying: dedicated routes, VFR bubbles, small airfields scattered throughout the country and, in some cases, the ability to land at approved off-airfield operating sites—a field, a beach or a desert area.

The VFR bubbles deserve particular emphasis. Unlike flying along a defined route, within a VFR bubble the pilot has complete freedom to choose direction and track, subject to a specified altitude ceiling. It is a form of aviation that

encourages direct contact with the country itself rather than merely passing over it.

**Where Can You Fly?**

Israel has one distinct advantage: its compact geography.

Within a single day, you can move from the green landscapes of the north to the southern desert, fly over Jerusalem and land near the Dead Sea—all before lunch.

Many pilots incorporate a stop for coffee in the field, a meal or, occasionally, an overnight stay beneath the stars, just as we described above. In this way, every flight becomes a story in its own right.

In practice, you can fly almost anywhere in Israel. On weekends, the country is dotted with LSA VFR bubbles—in the Negev, Galilee, Jezreel Valley, Golan Heights and Jordan Valley. Israel also has a considerable number of licensed and recognised airfields, while off-airfield landings are possible as well, subject to the appropriate qualification, the required approvals and a direct inspection of the intended landing area in advance.

A significant number of pilots entering the LSA world are highly experienced aviators—some from the Israeli Air Force, others from commercial or general aviation—who are looking for a way to continue flying after retirement without the bureaucracy, expense and more stringent medical requirements associated with commercial flying.

Others are active professional pilots looking for something additional: a relatively inexpensive and accessible way to maintain flying proficiency while enjoying the experience that, to a large extent, was the reason they fell in love with flying in the first place.

**Adding an LSA Endorsement for Existing Licence Holders**

Pilots who already hold a pilot licence—whether with an aeroplane rating or another category rating such as gliders—can add an LSA endorsement through a relatively abbreviated training programme.

The principal requirements, as published by the Israeli Sport Aviation Association, are as follows.

**Prerequisite:** A valid pilot licence with an aeroplane rating for general aviation, or alternatively a pilot licence with a rating in a category other than aeroplanes.

**Theory:** Two examinations are required. The first is a combined technical-knowledge and air-law examination administered through the Civil Aviation Authority of Israel (CAAI). The second is a closed-book aircraft-specific examination covering the particular LSA type on which the pilot is training; this is generally administered by the instructor or flight school.

**Dual flight instruction:** The requirement depends on the pilot's previous experience. Holders of a Group A aeroplane rating are required to complete a minimum of six hours. Holders of a Group B aeroplane rating, as well as pilots holding a non-aeroplane rating such as a glider rating, are required to complete eight hours.

Pilots with more than 100 hours of accumulated pilot-in-command experience—for example, former IAF pilots who have not obtained a civilian aeroplane rating—are required to complete eight hours, including 2.5 hours solo. Apart from this latter category, no solo hours are required.

**Practical test with a CAAI examiner:** The test includes familiarity with pre-flight procedures, aircraft documentation, weight-and-balance calculations, checks and procedures for both normal and emergency operations, and execution of the required flight manoeuvres.

Pilots wishing to expand their flying options still further can also obtain an **off-airfield operations endorsement**, permitting landings away from established airfields and airports, subject to verification that the site is suitable and to the landowner's permission.

The endorsement requires a ground briefing and three hours of dual flight instruction and does not require a specified amount of previous flying experience.

Finally, maintaining licence validity requires a proficiency check every two years, together with a requirement to fly six hours annually in each aircraft category separately. For pilots who also hold a general aviation aeroplane rating, the biennial proficiency check alternates between the aeroplane and LSA categories.

So, in conclusion, to everyone who loves flying—and particularly those approaching retirement age or who have already reached it—get in touch and come fly with us across the length and breadth of this beautiful country.

**See you on frequency.**

Contact: aguda@lsa.org.il