# ACE

AEROSPACE CENTRAL EUROPE

**EURAC**
September 2025 • Prague • Czechia

**NATO DAYS**
20. - 21. 9. 2025 • Ostrava • Czechia

**FUTURE AIR FORCE CONFERENCE**
17. - 18. 9. 2025 • Prague • Czechia

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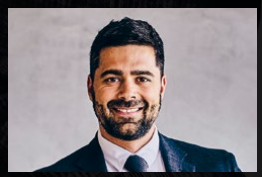
23. 9. 2025 • Vienna • Austria

# SKYFOX: READY TO REWRITE RULES OF AIR COMBAT TRAINING

Viktor Sotona
President & Chairman of the Board, AERO Vodochody AEROSPACE a.s.

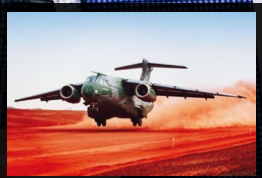


**FILIP KULŠTRUNK: WHY SKYFOX OUTFLIES ALL LEGACY TRAINERS**

**LT. GEN. ČEPELKA: BUILDING EUROPE'S AIR DEFENCE THROUGH EURAC**

**JIŘÍ PROTIVA: HOW LOM PRAHA SHAPES NATO PILOT TRAINING**

**SPEEL PRAHA: CZECH AVIONICS PROTECTING PILOTS IN EXTREME CONDITIONS**



**EMBRAER KC-390: NATO'S FUTURE BACKBONE OF STRATEGIC MOBILITY**

**ZBYNĚK PAVLAČÍK: NATO DAYS STRENGTHENING EUROPE'S DEFENCE THROUGH COOPERATION**

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Aero

L-39 SkyFOX

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**A brand-new generation of a modern and cost-effective subsonic jet aircraft.**

**Modern avionics systems and ability to integrate a wide range of payloads.**

**Truly versatile platform suitable for training, reconnaissance and light attack missions.**

# Shaping Air Power

This edition of ACE opens with a clear message from Europe's air forces: defence must evolve from patchwork capabilities into a strategic, interoperable ecosystem.

At the heart of this issue is an exclusive insight into EURAC, the high-level conference of European Air Chiefs, hosted this year in Prague. We had the unique opportunity to sit down once again with Lieutenant General Petr Čepelka, Commander of the Czech Air Force, whose strategic foresight has become a recurring voice in our pages. As he points out, the current security landscape demands more than interoperability. It demands strategic coherence. Under his leadership, the Czech Air Force is not only contributing to NATO's collective air defence but also shaping the very conversations that define its direction. This year's EURAC is a clear example. A forum where European air forces are no longer just exchanging views, but actively coordinating future capabilities, acquisitions, and doctrinal alignment. We're proud to offer a glimpse into this process, especially at a moment when Prague becomes the discreet centre of a critical European dialogue.

From strategic vision to operational mobility, Embraer's KC-390 Millennium marks a breakthrough as the first non-European tactical airlifter to enter NATO service. Its versatility, digital backbone, and multi-role design are redefining what a modern airlift platform can offer to the Alliance not just as a transport aircraft, but as a modular solution for rapid deployment, medevac, aerial refueling, and more.

Our cover story takes you inside AERO Vodochody, where the Skyfox trainer is now offered with new clarity and confidence. As CEO Viktor Sotona shares, the aircraft is backed by a customer-first support strategy and a deep legacy of jet trainer know-how tailored not to trends, but to mission demands. And above all, designed to deliver long-term operational value.

In a parallel move, LOM PRAHA has opened its doors to global collaboration through its Future Air Force Industry Day. CEO Jiří Protiva outlines how this state-owned company is evolving into a partner-ready hub for training and technical services, with its foundations rooted in decades of military aviation experience and a growing portfolio of certified NATO-standard capabilities.

Agility and precision also define SPEEL Praha, whose avionics and crash-survivable systems are quietly becoming standard equipment across multiple platforms. From flight data and voice recorders to head-up displays and mission support systems, SPEEL demonstrates how focused technological expertise can turn a domestic supplier into a global solution provider.

Further west, GROB Aircraft continues to offer not just a trainer, but a comprehensive training ecosystem. Their G 120TP platform, together with advanced simulation and mission management systems, enables pilots to transition seamlessly to high-performance aircraft, bridging the gap between fundamentals and fifth-generation readiness.

We also revisit NATO Days in Ostrava, where defence meets the public in a rare mix of openness and strategic messaging. As Zbyněk Pavlačík reminds us, trust and visibility are vital to modern defence. Behind the dynamic displays lies a deeper goal: reaffirming democratic control of the armed forces, strengthening international partnerships, and maintaining public support.

*Katerina Urbanova*
*Editor-in-Chief*

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# AIR POWER IN AN AGE OF UNCERTAINTY: EURAC AS A STRATEGIC ENGINE FOR EUROPEAN AIR FORCES

EURAC 2025 in Prague will bring together Europe's air force commanders and senior defence industry leaders at a time when air power faces unprecedented challenges. As Lieutenant General Petr Čepelka, Commander of the Czech Air Force, explains, EURAC is no longer just a forum — it is a strategic accelerator shaping Europe's response to global instability, technological disruption, and shifting alliance dynamics.


Petr ČEPELKA

# AIR POWER MUST ADAPT OR LOSE THE ADVANTAGE

**General, as the principal architect of Czech air force capabilities, how do you view the role of EURAC in an era when aviation faces the twin challenges of entropy and chaos? How does this platform drive innovation and strategic planning in European air power?**

I regard EURAC as a critical strategic platform, whose importance grows steadily within today's volatile security landscape. The gathering of Europe's air force commanders, alongside senior representatives from the defence and security industry, offers a unique opportunity to share visions, build consensus, and shape the future of European air power at a time marked by rising global uncertainty, technological acceleration, and strategic competition.

In this period of entropy and chaos, where the very paradigm of air superiority is shifting, EURAC stands out as an essential forum for building common ground among Europe's air


Air Force Commanders of Europe


Chief of the Czech Air Force with Members of the Czech Armed Forces Air Component

leaders. It provides a space for open, high-level dialogue on the future of air forces, European defence cooperation, and the collective response to global security challenges. The discussions here are not academic — they have direct impact on strategic planning, innovation, and the ability to respond flexibly to a rapidly changing operational environment.

This year's theme — Air Dominance in a Multipolar World: Strategic Adaptation of European Air Forces to Shifting Global Alliance Dynamics — reflects these realities. We are witnessing a geopolitical shift towards multipolarity, intensified great power competition, and the rise of disruptive technologies that are rewriting the rules of engagement. No air force can afford to plan its future in isolation; cooperation and the sharing of knowledge and experience are essential.

EURAC in this context acts as an accelerator for innovation and strategic thinking. It allows not only the exchange of proven approaches but also the discussion of alternative, sometimes unconventional and bold solutions. It is a place to present ideas, seek joint approaches, and ultimately make decisions that can significantly influence the future balance of power in Europe's airspace.

As the Commander of the Czech Air Force, I see EURAC not merely as an opportunity but as a responsibility: to actively contribute to shaping the European air strategy, to reflect our experiences and needs, and to seek synergy with partners with whom we share not only airspace, but also values and security responsibilities.

**What key topics should EURAC address this year? What strategies and innovations must European** ►

## UNITED, AMBITIOUS, TECHNOLOGICALLY COMPETITIVE

Pilot Training on the AH-1Z Viper Simulator

**► air forces adopt to effectively respond to the shifting geopolitical landscape?**

This year at EURAC, we aim to open essential strategic discussions that arise from the changing global reality. Following the new U.S. administration, we are observing a shift in transatlantic relations. Washington remains firmly supportive of NATO but increasingly emphasizes the need for Europe to take greater responsibility for its own defence. The message is clear: we must strengthen Europe's strategic and security autonomy.

We therefore want to discuss what these new U.S. strategic moves mean for European defence, how European air forces can better coordinate our capabilities, technologies, and capacities, where we can reduce dependence on U.S. supplies and strengthen our own defence industry, and how we can expand cooperation with potential partners beyond Europe.

**STRATEGIC AUTONOMY IS NO LONGER OPTIONAL**

It is equally important to look at the reality of modern warfare. The conflicts in Ukraine and the Middle East have revealed hard truths about high-intensity combat. Drones, cyberattacks, hybrid tactics, and integrated air and missile defence (IAMD) must all be part of our strategic adaptation. EURAC will also serve as a forum for sharing lessons from Ukraine and Israel. We will debate multi-domain operations, rapid response capabilities, independent decision-making, and the need to increase investment in the modernisation of Europe's air forces and the fast adoption of new technologies.

And we must not neglect the near and distant future. Tomorrow's air dominance will not be achieved without innovation in AI, autonomous systems, hypersonic technologies, and the military use of space. We will discuss joint development projects, future interoperability, and the creation of European capacities in areas where we risk strategic lag.

# BOLD IDEAS. SHARED SOLUTIONS. REAL IMPACT

EURAC is not merely about exchanging views. It is the place where Europe's joint response to global change is shaped — a response that must be united, bold, and technologically competitive.

**With the rise of drones, AI, and miniaturised technologies, traditional operational concepts are evolving. How should air forces integrate these technologies to maintain operational effectiveness?**

The technological revolution is transforming the character of air operations. Drones, AI, autonomous systems, and miniaturisation bring new capabilities — but also new risks. Traditional deployment concepts are losing relevance. Those who fail to adapt will lose the advantage. That is simply the reality.

Air forces must integrate these technologies not as an add-on but as the foundation of future operational systems. We need flexible force architectures that connect manned and unmanned systems, enable rapid data processing through AI, and ensure a high level of autonomous decision-making — especially where speed and precision are required without delay.

AI and autonomous platforms can significantly enhance battlespace management, shorten decision cycles, and improve force resilience in environments with limited connectivity or under heavy jamming. Miniaturised sensors and drones extend our ability to conduct reconnaissance and targeting across greater depths and breadths of the operational space.

But technology alone is not enough. We need new doctrines, new approaches to personnel training, and deeper cooperation with industry. Those who master strategic transformation — both technically and mentally — will set the rules for future conflicts.

**EURAC enables European air forces to share experiences. How vital is international cooperation in addressing emerging security threats, and what are its tangible benefits?**

In today's security environment — marked by unpredictability, hybrid threats, and technological acceleration — international cooperation is not a choice; it is a necessity. No nation, no matter how capable, can face today's challenges alone.

EURAC as a forum for Europe's air forces plays a key role. It allows us to share operational experiences, assess new threats in real time, and seek joint solutions. Through these discussions we can synchronise strategic thinking, harmonise technological development, and prepare for joint operations.

The benefits of this cooperation are concrete: more effective training, shared assets, aligned procedures, and joint investments in innovation. All of this significantly strengthens our ability to respond rapidly, adapt, and above all, act decisively. Together, we are unquestionably a stronger air force.

**What do you expect from this year's EURAC in Prague? What core message should guide European air forces as they plan their next steps?**

From this year's EURAC in Prague, I expect an open, strategic, and values-driven dialogue on what it means to be strong, cohesive, and capable in a rapidly changing security environment. I also expect us, as European air force leaders, to ask ourselves the essential questions: Are we ready to take on greater responsibility? Can we act swiftly and with unity? Do we have the courage to change mindsets, doctrines, and investment priorities?

The core message of this year's meeting should be this: European air forces must be not only technologically advanced but also strategically adaptable, interoperable, and capable of independent decision-making in crises. That means investing in innovation, in people, and in cooperation — and building relevant 21st-century air power that can prevail even in the most demanding scenarios.

**Interview by: Katerina Urbanova**
**Photo credit: Czech Air Force**


# THE EMBRAER KC-390 MILLENNIUM:

# READY TO MEET ALL CHALLENGES IN EUROPE

# OPERATIONAL

Europe is at a crossroads. The golden era of peace dividends is now over, and many countries are adjusting their defensive posture and modernizing their defense capabilities. This is the key takeaway from the 2025 edition of the Paris Air Show at Le Bourget.

And the KC-390 Millennium is the aircraft of choice to meet the new operational challenges in Europe. Since entering service in 2019 in Brazil, and later in Portugal and Hungary, the aircraft has consistently demonstrated its versatility, adaptability, ease of use, and low operating costs. These qualities have made this new-generation aircraft from Embraer the star of the Paris Air Show at Le Bourget airshow.

## ► PORTUGAL' ORDERS A SIXTH KC-390 AND SEND A CLEAR SIGNAL IN EUROPE

During the show, the Portuguese government confirmed its acquisition of a sixth KC-390. More than just a procurement, it is a declaration. Portugal will offer ten purchase options to other NATO members through government-to-government channels. This is not just clever politics. It is strategic architecture. By creating a shared acquisition framework, Portugal offers its allies a pathway to interoperability, and industrial cooperation.

The aircraft's performance speaks for itself: a mission completion rate above 99%, payload capacity of 26 tons, and the flexibility to operate from unpaved runways. But the larger point is this: the KC-390 is not just ready for the world as it is. It is prepared for the world as it may become.

## LITHUANIA'S CHOICE: A BALTIC HORIZON

On the second day of the show, Lithuania announced that it had selected the C-390 Millennium as its future transport platform. Lithuania chose the C-390 not out of novelty but after a detailed evaluation of all the solutions available on the market. For Lithuania, the C-390

Power, precision, and performance—the KC-390 Millennium soars above the rest, delivering next-gen airlift capabilities for missions anywhere, anytime. The future of military aviation is here!

The KC-390 Millennium, Embraer's advanced multi-mission transport aircraft, continues to redefine military mobility with its unmatched versatility and cutting-edge technology


Netherlands Advances C-390 Capabilities with Innovative Aeromedical System

**THE C-390 IS NO LONGER AN ALTERNATIVE, IT'S THE NEW STANDARD**

Millennium is the ideal aircraft to fill its operational needs while enhancing its military readiness and interoperability with other NATO countries. The C-390 Millennium and its tanker variant, the KC-390, are versatile transport aircraft that meet the strictest NATO standards—and go even further. The aircraft's avionics, which include Link 16, HF/V/UHF communications, and SATCOM as well as latest standard IFF, enable it to carry out missions in perfect coordination with NATO's C4ISR and AEW (Airborne Early Warning and control) systems, as well as with the F-35, F-15, F-16, Rafale, Eurofighter, Mirage 2000, F/A-18E/F, and JAS 39 Gripen combat aircraft. The aircraft thus becomes a true flying communications hub

The forthcoming deal with Lithuania includes industrial cooperation, with maintenance, repair, parts co-production, and technology partnerships to be developed inside Lithuania.

## THE BEST GETS EVEN BETTER IN THE NETHERLANDS

The Royal Netherlands Air Force, already a committed buyer of the C-390, chose the Paris Air Show to unveil something radically new: a roll-on/roll-off aeromedical module, capable of turning any C-390 into a flying intensive care unit. This system is not conceptual, it is real, modular, and field-ready. It enables treatment of patients requiring full life support, even in contagious environments, while protecting both crew and caregivers.

That a transport aircraft can be converted in hours from cargo hauler to mobile hospital speaks volumes about the design thinking behind the C-390. It is not a platform designed to impress in one role. It is a multi-function tool for uncertain futures.

## A PLATFORM IN FLIGHT, A MESSAGE IN THE AIR

On the Sunday before the show opened, Embraer offered a demonstration flight to members of the press. It wasn't a theatrical gesture, but something more intimate to feel how the aircraft really behaves in the air. During the week, dozens of delegations from across the globe visited the stand, walked the ramp, and watched the aircraft in motion. What they saw was a machine built not for air shows, but for XXIst century missions in a contested environment, disaster response, and the quiet urgency of medical evacuation.

It is a flying Swiss knife able to refuel other aircraft, drops cargo onto improvised runways, carries troops, patients, or supplies depending on the hour of the day. It is not the most beautiful aircraft at Le Bourget. But it might be the most necessary.


The A-29 Super Tucano – a rugged, multirole turboprop designed for advanced pilot training, light attack, and reconnaissance missions in demanding environments.

## THE SUPER TUCANO AT 600,000 HOURS

Alongside the momentum of the C-390, Embraer marked another milestone. The A-29 Super Tucano surpassed 600,000 flight hours—an endurance not just of engineering, but of relevance. With over 290 aircraft ordered and 22 air forces served, the Super Tucano is the rare machine that has adapted to every conflict, every climate, and every budget.

The NATO interoperable A-29N variant, recently acquired by Portugal, shows how Embraer continues to refine its platforms for alliance requirements, offering Western avionics and secure communication systems while preserving rugged performance. In an age where cost-efficiency is often a euphemism for cutting corners, the A-29 remains unapologetically capable.

## TOWARD A NEW GEOGRAPHY OF AIRPOWER

The outstanding success of Embraer at Paris is not simply the story of a good aircraft. It is the story of a company that understands that airpower today is not about domination, but versatility, interoperability and adaptability. The nations choosing the C-390 are not doing so to chase prestige. They are choosing a tool, reliable, affordable, and versatile, that allows them to respond to crises they cannot yet predict.

**By: Katerina Urbanova**
**Photo credit: Embraer**

**FROM PORTUGAL TO LITHUANIA, EMBRAER IS REDRAWING THE MAP OF EUROPEAN AIRLIFT**

# TO THE STARS AND BACK: **HOW THE L-39 SKYFOX IS PUTTING CZECH AEROSPACE BACK ON THE GLOBAL MAP**

2024 was a record year for Aero Vodochody. The company achieved its highest revenues in modern history, successfully launched the new L-39 Skyfox advanced jet trainer, and expanded cooperation with major international partners. We spoke with President and Chairman of the Board Viktor Sotona about Aero's strategic plans, challenges, and future ambitions.

**Mr. President, Aero recorded its best results in modern history last year. What's behind this success?**

Without a doubt, it's the consistent implementation of the strategy we defined after the ownership change in 2021. It stands on three pillars: a return to our own product — the L-39 Skyfox aircraft, development of aerostructures cooperation programs, and building strong customer relationships. The year 2024 was a turning point. We achieved over CZK 6 billion in revenues, adjusted EBITDA increased to CZK 821 million, and net profit exceeded CZK 100 million — all without subsidies, purely through commercial performance. These are figures that clearly demonstrate Aero is back on the right track.

**Your financial plan for this year anticipates further growth. What specific goals have you set for 2025?**

We've set truly ambitious goals. We anticipate a 50% increase in EBITDA — a very significant rise. At the same time, we are meeting our production plan and reducing inventory by 15%. All of this with a continuous focus on process efficiency.

**What does it mean to you personally to lead such a historically significant company?**

It's a great honor, but also a responsibility. Aero has more than 100 years of history, during which it has trained five generations of elite pilots around the world.

Viktor Sotona, President and Chairman of the Board, AERO Vodochody AEROSPACE

## AERO HAS RETURNED TO PROFITABILITY AND GLOBAL RELEVANCE BY COMBINING HERITAGE WITH A FORWARD-LOOKING PRODUCT STRATEGY CENTERED ON THE L-39 SKYFOX

That's a big commitment. At the same time, it's a challenge — the aviation industry is undergoing enormous changes, and we have to ensure that Aero remains relevant for future generations. When I see that we are succeeding in returning Czech aerospace to the global stage, it gives me real hope.

**The L-39 Skyfox is now your main product line. How does it differ from its predecessors and what new features does it bring?**

Skyfox is a modern successor to the legendary Albatros, but with significantly improved capabilities. It's a fully capable tactical training aircraft with excellent flight characteristics, modern avionics, and an integrated training system. Crucially, Skyfox is not just an aircraft — it's a complete platform for training pilots of 4th and 5th generation aircraft, including those transitioning to the F-35.

**You put strong emphasis on integrating the aircraft into a broader training ecosystem. What exactly does that mean?**

Modern flight training today requires much more than just a quality aircraft. Efficiency is key — it's no longer only about flight hours but how that time is used. That's why we offer Skyfox as part of a comprehensive package that includes ground simulators, a Live-Virtual-Constructive (LVC) training system, and other tools. With this setup, a pilot can train far more skills in one flight hour ►


The L-39 Skyfox in flight, delivered to LOM PRAHA | Photo by: Tokunaga

**UNDER SOTONA'S LEADERSHIP, AERO IS POSITIONING ITSELF AS A KEY EUROPEAN PLAYER IN PILOT TRAINING, AEROSTRUCTURES, AND DEFENSE COOPERATION**

► than before, significantly increasing efficiency and reducing training costs.

**What would you consider Skyfox's greatest competitive advantage compared to similar platforms on the market?**

It's the combination of several factors. Our core added value lies in our ability to operate in both the Western and Eastern standards. Traditionally, there have been two main approaches to pilot training — NATO and the Eastern bloc — differing in avionics, training methods, and technician workflows. Our aircraft allows training under both standards and enables smooth transitions between them. That's a unique offering.

Other advantages include platform modularity, low operational costs, and of course the reliability that Czech aircraft have always been known for. Last but not least, we offer a comprehensive support package and the ability to customize the product to meet specific customer needs.

**How are the first Skyfox units performing with customers? Have you received operational feedback yet?**

Yes — and it's very positive. In 2024, we completed delivery of 12 aircraft to Vietnam, where they've already logged hundreds of flight hours under demanding climatic conditions. Pilots especially appreciate the aircraft's stability, its controllability at higher altitudes, and the modern avionics that ensure maximum safety even in poor weather.

We also delivered the first two aircraft to the Flight Training Centre (LOM PRAHA) and three aircraft to the Hungarian Air Force. Feedback has been excellent — instructor pilots particularly praise the quick control stick response, excellent acceleration and deceleration, and intuitive handling.

**How important is your domestic customer — LOM PRAHA?**

It's absolutely fundamental. The delivery of the first two aircraft to LOM PRAHA is a major milestone not just for Aero and the company itself, but for the entire Czech aerospace industry. It's a massive leap forward in the training capabilities of the Czech Air Force, which previously did not have access to such a sophisticated training platform.

The contract includes four aircraft in total, with the remaining two to be delivered in the third quarter of this year. LOM PRAHA also holds an option for an additional four aircraft, which I believe they will exercise in the future.

**Do you plan deeper cooperation with LOM PRAHA?**

Definitely. We are already working together to develop training systems, for example the LVC project which connects live flights with virtual environments. This system offers effective and realistic training at lower costs — exactly what today's air forces need.

In July, we plan to sign a comprehensive support agreement with LOM PRAHA covering the entire fleet of four L-39 Skyfox aircraft. The agreement will run through the end of 2028 and includes integrated logistical support for both planned and unplanned maintenance. Its goal is to maximize aircraft availability — a key requirement for meeting training targets.

**You've recently announced the launch of the Skycare program. What is it about?**

Skycare is our latest next-generation customer support program, designed to maximize fleet availability and ensure that

military operators can focus on what matters most — fulfilling missions. It's a comprehensive solution built on three pillars.

The first is integrated logistics support covering both planned and unplanned maintenance for the L-39 Skyfox and all its subsystems. The second is comprehensive engineering and service support provided directly by Aero specialists. The third is a digitally enhanced, specialized customer care approach.

**What makes this approach innovative?**

Skycare redefines our maintenance and support approach. It works on a "pay-by-the-hour" model, giving customers full predictability over their fleet's operational costs. That's a major advantage for military operators who need to plan their budgets with precision.

**How much interest is there in this service among current customers?**

As I mentioned, in July we'll sign a similar contract with LOM PRAHA. A significant agreement is also being prepared with the Hungarian Air Force, covering their fleet of 12 aircraft. In this five-year agreement, we guarantee aircraft availability with a target rate exceeding 80%. That's a key benchmark in today's air forces.

Skycare is no longer just a complementary service — it's becoming an integral part of our product offering and a major competitive advantage.

**Which markets and customers are you focusing on currently?**

We are currently negotiating with customers in Europe, the Middle East, Southeast Asia, and Africa. We are seeing increased interest from countries looking to replace aging aircraft such as the Hawk, Alpha Jet, or older L-39 versions. There is also strong potential in countries that need to boost border security or conduct reconnaissance — areas where Skyfox's versatility as a multirole platform is highly valuable.

**Last year, you achieved important certifications. What do they mean for Aero?**

They represent a key milestone. The aircraft was certified by the Czech Ministry of Defence's Military Aviation Oversight Office under EMACC — the European Military Airworthiness Certification Criteria. It is the first fully Czech aircraft to meet these demanding standards. Additionally, we obtained certification for production, maintenance, and training for the Hungarian market. Both certifications strengthen our position among NATO-aligned customers.

**Skyfox became part of the NATO Flight Training Europe (NFTE) program in Hungary. What are your ambitions in allied training?**

Participation in NFTE is extremely important to us. The Hungarian Air Force has incorporated Skyfox into its training program, where our aircraft plays a central role. With EMACC certification, it is fully eligible for allied training, and its modularity allows it to be adapted to the specific requirements of different nations.

We see the opportunity to become a reference platform for integrated European training. We are already in concrete talks with representatives of several countries about shared training capacities — whether in the form of joint centers, pilot rotations, or simulator system interoperability.

**What kind of industrial cooperation do you envision in these European efforts?**

Training is only part of the story. We also offer opportunities for local industry involvement — in operations, maintenance, servicing, or component supply. We take an individual approach with each country, knowing that a strong domestic component is often key to success. We are a flexible partner capable of adapting both the product and the entire supply model to the customer's strategic priorities.

**Besides the aircraft itself, the aerostructures segment is also growing. Which programs are most important here?**

This segment is very important to us — in 2024, it brought in CZK 1.39 billion in revenue, representing 23% of our total. The most important program is the Airbus A220, where we increased production of leading edges by 80%, and plan to triple it within three years.

Another key program is the Embraer C-390 Millennium. We signed a crucial amendment that will quadruple production over six years. We are one of the key partners in the program, manufacturing rear fuselage sections, ramps, doors, and leading edges.

**At IDET you announced cooperation with Lockheed Martin. Can you tell us more about that?**

We signed an agreement to cooperate on the development and production of the Multi Sensor Reconnaissance Pod — an advanced ISR pod using next-generation composite materials. This gives us access to the global defense supply chain and proves that Aero possesses the know-how and technological maturity to take part in the world's most advanced programs.

**You mention optimization and digitalization as key goals for 2025. What specific steps are you taking?**

Digitalization is a key priority. This year, we're preparing a smooth transition to a new ERP and PLM system, which we plan to implement in 2026. We're now focusing on strengthening quality management as a foundation for this shift.

Last year, we deployed the IFS ERP system, which covers production, logistics, finance, and maintenance. We also implemented Siemens Teamcenter PLM for product lifecycle management. This enables fully digital control of development and production — from design to operation.

We've also modernized our machinery — replacing an older machining center with the new STARRAG STC 800 X, which machines aluminum alloy parts more efficiently and at higher quality. We've also acquired a new QUINTUS QFC 1x2-800 fluid forming press, which is significantly more productive and cost-effective to operate and maintain.

**What results do you expect from these investments?**

We expect a significant reduction in labor intensity across all programs. For the L-39 Skyfox, we aim for a 10% ►


L-39 Skyfox delivered to Hungary | Photo by Jan Čadil

► reduction, and 5% for the AST program. Thanks to improved quality processes, we expect cost savings of up to 10%. All of these efforts aim to enhance efficiency, quality, and competitiveness.

**In today's market, attracting and retaining skilled workers is a major challenge. How is Aero addressing this?**

People are absolutely crucial to us. In 2024, we increased wages by an average of 5%, introduced higher bonuses, and improved working conditions. This year, we are focusing on defining career paths for talented employees and implementing Kaizen principles as part of daily operations.

We also prioritize cooperation with technical universities and schools — offering internships, mentoring, thesis supervision, and participation in real projects. We want to attract young talent and show them that a career in aerospace can be exciting and meaningful.

**Are you planning additional activities in this area?**

Yes — this year, we are focusing on ensuring position coverage and succession planning for key roles. This is essential for long-term stability and company growth. We also plan to continue integrating Kaizen principles into our corporate culture — aiming for continuous improvement and innovation.

**What is your long-term vision for Aero?**

I see Aero as a respected European player with a strong proprietary product line, capable of developing, manufacturing, and certifying next-generation aircraft. We want to be not just an aircraft supplier but a strategic partner in training, technology, simulation, and operational support.

Our goal is to define and approve the product portfolio through 2030 so that we can prepare for it systematically. We also want to continue strengthening cooperation in aerostructures and expanding our international presence.

**Which values are most important to you in fulfilling this vision?**

We are guided by four core values. We are creative — when things don't go as planned, we write a better plan. Aero has always sought new paths rather than blindly following others. We remain competent — our team consists of people who know what they're doing. And if we don't know something? We learn it faster than a plane can take off. We are efficient— we don't waste fuel, time, or energy. And finally, we are reliable — Aero doesn't compromise. Whether it's our aircraft or our work — what we promise, we deliver.

**Looking back on your leadership so far, what are you most proud of?**

Of our success — which is the result of the entire Aero team's effort. If I had to highlight one thing, it would be the return of confidence. Aero believes in itself again. After years of uncertainty and stagnation, we've once again developed, built, certified, and sold a Czech military aircraft — and it's gaining recognition at home and abroad.

Today, we have a profitable company, a modern product, growing demand, and a strategic vision. And most importantly — we've regained respect. I believe that's the most significant step forward.

**Interview by: Katerina Urbanova**
**Photo credit: Aero Vodochody AEROSPACE**

# TRAINING FOR TOMORROW: AERO VODOCHODY'S STRATEGIC VISION FOR THE NEXT GENERATION OF MILITARY PILOTS

Following the strategic roadmap laid out by President Viktor Sotona, Filip Kulštrunk — Executive Vice President and Chief Commercial Officer at AERO Vodochody AEROSPACE a.s. — expands on how Aero is translating its vision into commercial success. In this exclusive interview, he explains how the company is addressing the growing global demand for military pilot training, why the L-39 Skyfox stands out as a versatile and cost-effective solution, and how Aero's integrated simulation technologies are shaping the future of NATO and EU training ecosystems.

**What key trends in military pilot training do you consider decisive for the next decade, and how is Aero preparing for them?**

There is a clear trend of increasing demand for pilot training across all phases, especially in connection with the acquisition of new combat aircraft. Pilot training programs must be properly adjusted, otherwise these platforms will not be deployed effectively. Western countries are simultaneously preparing to increase the number of trained pilots and are expanding their training programs to fulfill both NATO obligations and national requirements.

A major shift is the growing integration of tactical and combat elements into the early stages of training — areas that used to be taught much later. Training aircraft like the L-39 Skyfox now incorporate onboard simulation technologies, enabling students to experience realistic combat scenarios much earlier. These technologies also make it possible to link aircraft with ground-based simulators and simulate complex joint missions involving both airborne and ground-based pilots operating in virtual threat and target environments. This reduces the required number of actual flight hours, generating significant savings in operating costs. However, sufficient flight time remains essential to effective pilot development, which is why customers increasingly seek platforms with low acquisition and operational costs. Our L-39 Skyfox is an exceptionally well-positioned aircraft in this respect — offered with a comprehensive ground-based training system and attracting great interest thanks to its advanced technology and affordability.

**How are customer expectations changing regarding the acquisition of training aircraft, and how is Aero adapting its commercial strategy?**

Customers are focused on affordable solutions and efficient budget utilization. Due to the high costs of modern combat platforms, they seek training systems that allow them to redirect resources toward acquiring and operating more advanced combat aircraft. Another strong trend is the need to accelerate the training process and produce more pilots in less time — in other words, "more and sooner." Aero addresses this by offering a well performing, reliable jet training aircraft coupled with a full suite of ►

► simulators and training software, eliminating the need for expensive twin-engine, trans-sonic platforms for training.

Moreover, customers expect training systems to help maintain or rebuild comprehensive tactical capabilities. Aero responds to the ongoing trend of "downgrading" tactical preparation — a result of financial or capacity constraints — by offering realistic simulation of advanced combat scenarios through the Skyfox platform. This enables pilots to prepare for fifth-generation operational environments even in early training phases.

**What training systems does Aero currently offer its customers?**

Aero provides a comprehensive training system, including aircraft capable of delivering full-spectrum flight and tactical instruction. We offer virtual training environments, simulated radar, and datalink-enabled connectivity between aircraft. This is complemented by a full ground-based training system, from basic to advanced simulators — such as those delivered to the Flight Training Centre in Pardubice or to Hungary in cooperation with VR Group. Aero is also developing the integration of live aircraft with simulators to create a so-called "Live Virtual Constructive" environment. This technology will soon be introduced to our customers, who have already expressed significant interest.

Another major advantage of the L-39 Skyfox is its ability to support real weapons training. The aircraft is built with up to five hardpoints, which can already accommodate a wide range of both training and live weapons. Aero has long-standing experience integrating weapons systems from various manufacturers, which is highly attractive for our customers around the world.

**Which regions are currently strategic for Aero, and what steps are being taken to strengthen your market position?**

We primarily focus on replacing legacy L-39 aircraft in Eastern Europe, Africa, and Asia. However, we are increasingly penetrating markets in Western Europe and NATO countries, where customers value the cost-effectiveness of our solution and are often surprised not only by the Skyfox's flight performance but also by its advanced technological capabilities. Thanks to this combination, we can train pilots to nearly the same level as more powerful platforms, but at a significantly lower cost. I would confidently say that today we can cover 95% of a full pilot training syllabus for fourth- and fifth-generation aircraft at just 50% of the cost compared to supersonic training platforms.

Filip Kulštrunk, Executive Vice President and Chief Commercial Officer, AERO Vodochody AEROSPACE

**Which contracts could most significantly influence the future of the Skyfox platform?**

A key strategic objective is to expand the Skyfox fleet at the CLV in Pardubice to a total of twelve aircraft — a move that reflects growing demand from the Czech Armed Forces and NATO. We are also pursuing a contract with Slovakia and working on major export opportunities in Africa, Eastern Europe, and Southeast Asia. A top priority is to establish a presence in one of NATO's existing training centers in Western Europe or, possibly, in the US.

**Are there ongoing campaigns or investments to expand production capacity and adopt new technologies?**

Yes, we are both technologically and financially prepared to increase our production from the current 12 aircraft per year to 18, in response to growing demand. We are also modernizing our manufacturing processes across all programs, including expanding cooperation

with Embraer and launching a new partnership with Lockheed Martin on the development of reconnaissance pods for various platforms.

**What is the development potential of the Skyfox over the next five years?**

We are preparing a new avionics upgrade that will bring the cockpit even closer to the experience of flying fifth-generation aircraft. In cooperation with Hungary and Saab, we are working on a "Gripenization" of the Skyfox cockpit to ease the transition for pilots moving to the Gripen. We also plan to expand the aircraft's armament and sensor capabilities — including electro-optical systems, radar, and jammers — which will enhance operational flexibility without requiring major structural modifications.

**What role should Aero play within the European defense industry?**

Aero is already a cornerstone of the Czech aerospace sector, a major regional employer, and the holder of unique aerospace expertise within the country. However, we believe Aero should also be recognized as a strategic enterprise for the entire European Union. We are one of only two manufacturers in Europe capable of designing, developing, producing, and supporting a modern jet training aircraft end-to-end. We offer a proven platform that is globally competitive and uniquely positioned in the European context — alongside Leonardo's aircraft.

We already supply major players around the world and are fully prepared to participate in the development of future European platforms, whether through the European Defence Fund or bilateral partnerships. From a geopolitical perspective, Aero plays a vital role in maintaining influence and strategic ties in key regions — especially in Africa and Asia — where we face increasing pressure and competition from countries like Russia and China. Our ambition is to be recognized as the most efficient European training and tactical platform for military pilots.

**Interview by: Katerina Urbanova**
**Photo credit: Aero Vodochody Aerospace**


Two L-39 Skyfox aircraft delivered to Vietnam

# FROM MAINTENANCE TO MISSION READINESS: JIŘÍ PROTIVA ON LOM PRAHA'S STRATEGIC ROLE AND THE UPCOMING FUTURE AIR FORCE INDUSTRY DAY

LOM PRAHA, the Czech Republic's key provider of military aviation training and maintenance services, is stepping into the spotlight this September as it hosts the Future Air Force Industry Day. Taking place within the Future Air Force Conference 2025, which is co-organized by the Future Forces Forum, the event will bring international attention to the capabilities, innovation, and partnerships that define LOM PRAHA today. At the helm is Mgr. Jiří Protiva, a leader with deep experience in public service, defense procurement, and strategic transformation. In this exclusive ACE interview, Mr. Protiva shares how LOM PRAHA is preparing for the future of airpower and why this event will be more than just a showcase.

# WE DELIVER THE FULL SPECTRUM: PILOT TRAINING, SIMULATION, AND HELICOPTER MAINTENANCE IN ONE INTEGRATED SYSTEM

**Mr. Protiva, LOM PRAHA will host the Future Air Force Industry Day this September. What does this opportunity mean for the company?**

It's a unique chance to show the transformation LOM PRAHA has undergone and what we are capable of today. We want to demonstrate not just individual services or technologies, but the complete ecosystem we offer, from pilot training to helicopter overhaul. We also see it as an opportunity to connect with international partners and show that the Czech Republic has a strong and competent player in this field.

**How does LOM PRAHA contribute to the current and future capabilities of the Czech Air Force?**


L-39 Skyfox Full mission simulator

## THE INDUSTRY DAY WON'T BE A SHOW, IT'S A REAL-WORLD DISPLAY OF CAPABILITIES AND PROFESSIONALISM

We provide critical support services, including pilot training, simulator instruction, and the complete lifecycle support of Mi- helicopters. But we're also evolving. We're preparing for the transition to new platforms and technologies. For example, we're investing in modern simulation and exploring how we can support NATO-standard systems, not just legacy equipment.

**You've been Director of LOM PRAHA since 2015, leading it out of crisis. What was key to turning the company around?**

Restoring trust, internally and externally. LOM PRAHA needed a clear vision, financial stabilization, and a team that believes in what they do. We reorganized, invested in our people, and focused on delivering quality. Now we're in a position to grow, not just survive.

**The Future Air Force Conference focuses on pilot training and innovation. What message will LOM PRAHA send to attendees from Europe and beyond?**

That we are a modern, agile, and reliable partner. Our strength lies in combining decades of experience with new thinking. We've trained hundreds of military pilots, and we're ready to expand that capability further, with advanced simulation, international cooperation, and adaptability to different aircraft types.

**What does international cooperation mean to you in the context of defense training and maintenance?**

No country can operate in a vacuum anymore. We must learn from each other, align standards, and ensure interoperability. For LOM PRAHA, cooperation means not just offering services, but being part of multinational training networks, joint development projects, and sharing best practices. ►


First student pilots in L-39 Skyfox


# TRUE STRENGTH LIES IN COOPERATION, LOM PRAHA IS PART OF THE INTERNATIONAL DEFENSE AND TRAINING NETWORK

**► What innovations or developments are you most proud of at LOM PRAHA?**

One major success is how we've modernized our flight school and training center. We've also significantly upgraded our aircraft maintenance facilities. And, importantly, we've strengthened our security, compliance, and overall governance, things that matter a lot in the defense sector but are often invisible from the outside.

**How would you describe your vision for LOM PRAHA in the next 5 years?**

We aim to become a regional center of excellence for military pilot training and helicopter MRO. That includes transitioning to NATO-compatible platforms, deeper involvement in multinational training programs, and further investment into simulators and digital training tools. Stability, credibility, and growth, those are our goals.

**And finally, what can visitors expect when they come to the Future Air Force Industry Day at LOM PRAHA?**

A genuine look behind the scenes. They'll see our facilities, meet our experts, and get a hands-on sense of what

First student pilots at the L-39 Skyfox

we do. It won't be a marketing show, it will be an authentic demonstration of capabilities, professionalism, and readiness for future cooperation.

As Europe confronts new security challenges and modernizes its defense infrastructure, companies like LOM PRAHA are proving that transformation is not just possible, it's already underway. Under Jiří Protiva's leadership, the company has rebuilt its foundation and is now reaching beyond national borders. With the upcoming Future Air Force Industry Day, LOM PRAHA invites the international defense community to see not only what has been achieved, but what comes next.

**Interview by: Katerina Urbanova**
**Photo credit: LOM Praha**

# ADVANCED AVIONICS FOR HELICOPTERS AND TRAINING AIRCRAFT

In the demanding world of aviation, reliability and innovation go hand-in-hand. SPEEL PRAHA continues to shape global avionics with cutting-edge solutions, from modernizing iconic Mi-series helicopters worldwide to integrating advanced Head-Up Displays (HUDs) into both legacy and modern training aircraft.

## MODERNIZING HELICOPTERS – PROVEN SOLUTIONS FOR MI-SERIES AND AMBITIONS FOR UH-60

Helicopter modernization has long been SPEEL's domain, particularly with their renowned Crash-Protected Flight Data Recorder (CVFDR), known as CARE. Successfully deployed in substantial numbers, SPEEL has upgraded an impressive fleet of Mi-series helicopters (Mi-8, Mi-17, Mi-24) across multiple countries, including Azerbaijan, Georgia, and Rwanda. Their robust presence reflects a deep understanding of operator needs, offering seamless integration, reliable data capture, and ease of maintenance. Except for the Russian origin helicopters mentioned above, the SPEEL´s CVFDR has been installed on a significant portion of the Gazelle helicopters (SA-342) fleet in Egypt.

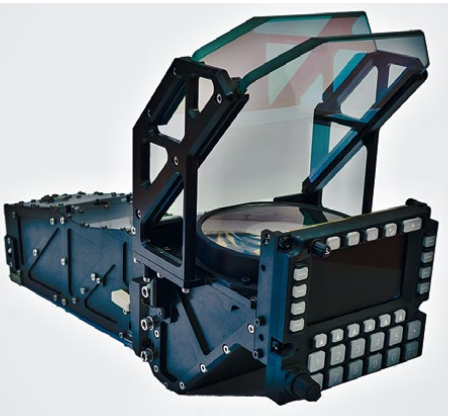
Now, SPEEL sets its sights on new horizons, including the UH-60 Black Hawk. Leveraging extensive expertise gained from Mi-series and Gazelle helicopter projects, SPEEL's technical teams are ready to bring their proven solutions to an even broader range of platforms.

## ESSENTIAL UPGRADE: HUDS FOR BASIC TRAINING AIRCRAFT

"It's time for basic training aircraft to embrace head-up displays," says Petr Viedičan, R&D Director at SPEEL PRAHA. This vision led directly to the development of the compact, affordable PDU-39 HUD system. Already in serial production, the PDU-39 has been enthusiastically adopted by operators of modernized legacy L-39 trainers across Kazakhstan, Ethiopia, and Nigeria. Discussions are ongoing with private operators of legacy L-39 jets keen to upgrade their cockpit technology, underscoring the product's attractiveness and practicality.


Cockpit of Skyfox aircraft equipped with the modern PDU Head-Up Display (HUD) by SPEEL PRAHA, significantly enhancing pilot situational awareness during flight

Head-Up Display, PDU-159-01 in the front cockpit of the L-39NG (SkyFox)



Head-Up Display, PDU-39-02 with the Universal Management Unit (UMU) by Borsight

## L-39 SKYFOX: FLAGSHIP ACHIEVEMENT IN AVIONICS INTEGRATION

SPEEL's significant contribution to the new-generation L-39 Skyfox jet trainer solidifies its reputation in advanced avionics. Chosen by Vietnam, Hungary, and the Czech Flight Training Centre (CLV), the L-39 Skyfox integrates SPEEL's advanced avionics suite, including dual-color backlit HUD with the mission processor, and the aircraft monitoring system embracing the Crash protected data recorder. This high-profile partnership highlights SPEEL's capability not only to support legacy aircraft but also to enhance cutting-edge aviation platforms.

## EXPANDING HORIZONS: FROM SOUTH AMERICA TO PAKISTAN

Geographical expansion remains integral to SPEEL's growth strategy. In South America, the company is proactively exploring opportunities. Efforts toward collaboration, such as potential agreements with Brazilian operator Helisul, signal the company's persistent drive, though immediate results may take time.

In Pakistan, SPEEL closely monitors emerging modernization projects, aiming to replicate past successes, such as their CVFDR system deployment on Pakistani Air Force F-7 and Mirage III/V jet fighters and the C-130B/E heavy transport fleet . Their careful approach balances cultural and operational complexities, a hallmark of SPEEL's international engagements.

## STRATEGIC PARTNERSHIPS: ENHANCING AVIONICS INTEGRATION

Deepening its technological edge, SPEEL is strengthening ties with avionics specialist ScioTeq. Their goal is to establish a formal Memorandum of Understanding (MoU) aimed at delivering fully integrated avionics solutions. Upon successful agreement, this partnership could significantly advance SPEEL's offerings, further solidifying their position as a comprehensive avionics solution provider.

## PRAGMATIC EXCELLENCE, GLOBAL REACH

SPEEL PRAHA continues to distinguish itself by delivering practical, cost-effective solutions without unnecessary frills. Whether supporting helicopter operations globally or enhancing training efficiency with innovative HUD technologies, SPEEL embodies agile responsiveness and relentless innovation.

As SPEEL moves forward, stakeholders worldwide can trust that their avionics needs are met with precision, reliability, and a genuine passion for aviation advancement.

**Written by: Katerina Urbanova**
**Photo credit: SPEEL Praha**

# 25 YEARS OF NATO DAYS IN OSTRAVA & CZECH AIR FORCE DAYS

Interview with Zbyněk Pavlačík,
CEO and Co-Founder of Jagello 2000


The NATO Days in Ostrava exhibition in Brussels was inaugurated by both Czech President Petr Pavel and NATO Secretary General Mark Rutte. Very few exhibitions get this level of international recognition

Celebrating its 25th anniversary, NATO Days in Ostrava & Czech Air Force Days has grown from humble beginnings into one of Europe's premier security events. In this exclusive interview, Zbyněk Pavlačík reflects on key milestones, international recognition, and the event's future ambitions.

**Looking back at a quarter-century of NATO Days in Ostrava, what moment will you personally never forget?**

The moment we decided to continue and organize the second edition after the success of our very first year at Černá louka.

**The exhibition in Brussels was inaugurated by Czech President Petr Pavel and NATO Secretary General Mark Rutte, symbolizing international recognition. What feedback did you receive from diplomats and NATO officials?**

Italian Air Force was the first one to display F-35 Lightning II aircraft at NATO Days in Ostrava in 2021. This year, Italy will play the role of the Special Partner Nation

Czech President Petr Pavel and NATO Secretary General Mark Rutte both made time to see the NATO Days in Ostrava exhibition that consisted of 13 panels featuring the most significant moments in the event's history

# OSTRAVA: EUROPE'S SECURITY CAPITAL EVERY SEPTEMBER

It was an immense honor and an affirmation of international prestige at the highest possible level. Typically, the Secretary General does not personally attend every exhibition opening—there is at least one event weekly within the Brussels complex, and competition to attract attention is fierce. Therefore, we deeply appreciate that Mark Rutte evaluated attending our exhibition's opening as important.

**How has the perception of NATO Days among foreign partners evolved from the initial editions to today? Was there a breakthrough milestone?**

A significant turning point occurred exactly twenty years ago when the first foreign military aircraft landed—two Tornado F3 jets from RAF Leuchars in Scotland. The following year, the RAF sent over twenty aircraft, including unique assets like the E3D Sentry AWACS, Harriers, Hawks, Tornado GR and F3, and especially the Red Arrows. This became a crucial reference point, significantly increasing international participation since 2007. The RAF thus continues to play a key role in NATO Days.

**At the exhibition, you highlighted growth not only in participant numbers but also in online viewers. How important is digital communication in promoting the event, and how do you plan to develop it further?**

Digital engagement will continue to grow in importance, as online viewers now significantly outnumber on-site attendees. This year, we are testing an international livestream in English in collaboration with Britain's Planes TV.

**What does it personally mean to you that NATO Days are now considered one of Europe's most prestigious security events?** ►


C-5 Super Galaxy of US Air Force is one of the most visited static displays. It is not everyday you are allowed to walk through the biggest USAF military aircraft

RAF Red Arrows were the first ever aerobatic group to display at NATO Day in Ostrava in 2006. They returned in 2012, and are returning to the event again in 2025 after 13 years

The first NATO Day in Ostrava took place on Friday afternoon at Černá louka. It attracted 10 000 visitors

► It gives me a profound sense of pride in our team's achievements and reinforces our commitment to maintaining this prestigious status in the future.

**Which partner country surprised you the most in recent years, whether by their deployed equipment, professionalism, or public engagement?**

The partner country component is something truly special, and we are very proud of it. Each country brings a unique approach, making the event more interesting for visitors. I'd particularly mention Romania, which, in 2019, became notable for transporting ground equipment overland from the greatest distance to date.

**Organizing an event of this scale requires massive coordination. What has proven most effective over the past 25 years in terms of cooperation between the military, police, and other agencies?**

Teamwork and our co-ownership approach with all partners and co-organizers have proven to be the most effective.

**This year's event marks a jubilee. Can we expect any special elements or participants you haven't revealed yet?**

We are working on it! :)

**You have had a long-standing cooperation with NATO's Public Diplomacy Division. What aspect of this support is most valuable, and what has it enabled you to achieve?**

Certainly, it is crucial that NATO openly supports and endorses our event.

**What are your dreams or plans for the future? Where do you see NATO Days in another ten years?**

We are working towards featuring unmanned aerial vehicle demonstrations.

**Interview by: Katerina Urbanova**
**Photo credit: Jagello 2000**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# THE FIGHTER JET THAT HANDS OVER CONTROL: GRIPEN E AND HELSING CENTAUR REDEFINE AIR COMBAT

In a milestone that may reshape the future of aerial warfare, Saab and Helsing have successfully demonstrated how artificial intelligence can take command of a next-generation fighter jet in real-world scenarios. On 28 May and 3 June 2025, a Saab Gripen E, one of Europe's most advanced combat aircraft, handed full control mid-flight to Helsing's AI agent Centaur during live test flights over the Baltic Sea.

This achievement is more than a technological feat; it signals a paradigm shift in man-machine teaming for air combat. In these trials, Centaur executed complex Beyond Visual Range (BVR) maneuvers, analyzed dynamic threat environments in real time, and issued firing commands against a second, human-piloted Gripen. A safety pilot was on board at all times, ready to intervene if necessary.

**"Centaur can learn decades of virtual air combat experience in just 24 hours."**
Antoine Bordes, Vice President Artificial Intelligence, Helsing

## THE MISSION: HUMAN AND AI COLLABORATION

When activated, Centaur assumes full control of the Gripen E, continuously processing sensor data to plan flight paths, execute tactics, engage adversaries, and evade threats. The system's architecture enables seamless handover between pilot and AI, a critical safety feature during these early stages of operational integration.

Saab and Helsing advanced from concept to test flight in less than six months, leveraging the Gripen E's flexible software architecture to integrate advanced neural network algorithms at record pace. This collaboration forms part of Sweden's Future Fighter Concept Studies, under contract with the Swedish Defence Materiel Administration (FMV).

Marcus Wandt, Saab's Chief Innovation Officer and the test pilot for these flights, described the trials as the future of air combat becoming reality in Europe today.

## CENTAUR: AI AT MISSION SPEED

Helsing's Centaur is trained using Self-Play Reinforcement Learning, a cutting-edge AI technique where the system improves through simulated engagements against itself. According to Helsing, this method enables Centaur to master decades of air combat experience in just 24 hours.

As the technology matures, Saab and Helsing will extend its capabilities for increasingly complex collaborative scenarios, ensuring the Gripen E's relevance for future networked warfare.

A Saab Gripen E flies over the Baltic Sea under the control of Helsing's Centaur AI agent during live BVR test flights, May and June 2025

### HELSING AT A GLANCE

- Founded 2021
- Headquarters Munich, Paris, London
- Focus AI-driven defense systems for air, land, and sea
- Recent milestone €600 million Series D funding in June 2025 led by Prima Materia to strengthen European technological sovereignty
- Key partnerships Saab, Grob Aircraft

Helsing combines artificial intelligence with mission-critical systems to provide European armed forces with next-generation capabilities. From fighter jets to ground systems, Helsing solutions are designed to deliver technological superiority in an increasingly contested world.

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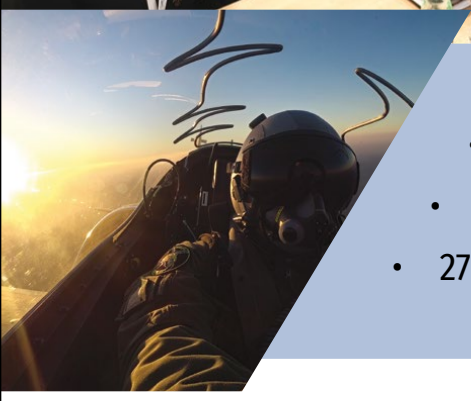

**2024 Numbers**

- 100 participants
- 20 generals – 7 Air Force Commanders
- 27 countries

PLATINUM PARTNERS

DIAMOND PARTNER

MEDIA PARTNERS

# DRONEVATION & DEFENCE: VIENNA LAUNCHES NEW HUB FOR DRONE INNOVATION AND COUNTERMEASURE STRATEGY

On 23 September 2025, Vienna will become the focal point of the drone and security community for the first time. The symposium "DroneVation & Defence" marks the launch of a new platform for expert exchange on current developments in unmanned systems, their military and civilian applications, and the associated threat scenarios—particularly in the context of modern counter-drone strategies.

This full-day event, taking place at Objekt 19 in Vienna Simmering, combines expert presentations, panel discussions, and a comprehensive industry exhibition under one roof. The spotlight will be on technological trends, security policy challenges, and how innovations can be transferred more rapidly into operational deployment.

The program promises high-level expertise from the fields of drone technology and countermeasures: leading representatives of the Austrian Armed Forces—including Armament Director Harald Vodosek, Air Chief Gerfried Promberger, and Brigadier Erich Weissenböck—will be joined by seasoned military analysts, international industry representatives, specialized technicians, and academics such as Eva-Maria Kern, President of the Bundeswehr University Munich.

The protection of critical infrastructure will also be a key topic. One of the main panels will feature experts from the military, government, and private sector discussing current threat scenarios and strategies to strengthen resilience. Another panel, led by Brigadier Rudolf Zauner from the Ministry of Defence, will explore how research findings can be operationalized more efficiently.

Alongside the lecture program, around 30 national and international companies will showcase innovative solutions covering the entire drone value chain—from sensors to loitering munitions. Exhibitors include global technology players like Rheinmetall, Aaronia, Lockheed Martin, General Atomics, and Thales, as well as specialized providers and research institutions from Austria and across Europe. A dedicated start-up zone will give young companies the chance to present their ideas to a security-focused audience and forge valuable connections with potential partners.

The event will conclude with a networking evening in a relaxed atmosphere—offering space for deeper conversations, new contacts, and informal exchange of ideas.

In addition to the companies already mentioned, the current list of exhibitors also includes Edge/Halcon, Quantum Systems, Hensoldt, Frequentis, Stark, Safran, PWC/Strategy&, Accurision, TRL Drones, Securiton, MyDefence, ODM, Walaris, Will-Burt, AIT, Pankl, and Alphacam.


"DroneVation & Defence" is organized in collaboration with the Austrian Armed Forces, the Security & Economy Working Group of the Austrian Federal Economic Chamber, and the Austrian Militia Association. Media partners include Ace Aeronautics, Drones Magazine, and Defence Redefined. The goal is to establish an annual platform that fosters exchange, cooperation, and forward-looking impulses for an innovation-driven security and defence landscape.

More information and tickets:

**Edited: Katerina Urbanova**
**Photo credit: DroneVation & Defence**

# New Airtech Flight Test Academy (NAFTA): Your Future, Our Mission

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# TRAINING REIMAGINED: HOW GROB TRAINING SYSTEMS BECAME A POWERHOUSE OF PILOT PREPARATION

What began as a single CBT course has grown into a fully integrated training ecosystem used across the globe. Behind this transformation stands Grob Training Systems (GTS), and one of its key architects, Christoph van Eupen, who has led the department from its inception to its current AI-enhanced, data-driven form. In this interview, we trace the milestones that shaped GTS into a next-generation training solution.

## FROM CBT TO ECOSYSTEM

Let's start at the beginning, how did Grob Training Systems come to life?

At Grob Aircraft, my career began in 2013 as a content designer. At that time, the GTS department didn't even exist. For ground training, there was only a G 120TP Cockpit Procedures Training (CPT) Simulator, which had been developed by another training systems provider.

My first project was to add a new product to the ground training systems by developing a G 120TP Computer Based Training (CBT) course. The goal was to provide our customers with a solid understanding of the G 120TP aircraft systems and flight training procedures.

As customer demand and workload increased, we made the decision to establish a dedicated department focused solely on ground training. That's how the 'Ground Based Training Systems' (GBTS) department was formed, initially with just two people: one colleague responsible for the CPT simulator, and myself handling everything related to CBT development.

Over the years, both systems grew more sophisticated, which meant we had to expand our team. Our product portfolio also grew from two products to five. The customers responded very positively to our solutions, which encouraged us to continue expanding. Eventually, we renamed the department to 'Grob Training Systems' (GTS), which remains its name today.

Today, our team develops our own simulators and covers everything from image generation (IG) and electrical systems to sensor technology, flight models, related software, and all associated hardware and training applications.

**How did GTS shift from individual products to a Total Training Solution?**

Through customer enquiries, numerous trade fair visits, and continuous research, I kept analyzing industry trends and noticed a growing focus on XR and ►

Flight simulation training device (FSTD)

## DATA-DRIVEN, AI-POWERED TRAINING

► AI technologies. Up until that point, all our products were standalone and couldn't communicate with each other.

It became clear from both industry trends and customer feedback that the market was moving toward more integrated and connected training systems. Recognizing this as a significant challenge, I coordinated efforts between our pilots and technical staff to combine our products into a unified training solution. The goal was to create a comprehensive training system, one that would integrate all our GTS products with the aircraft itself.

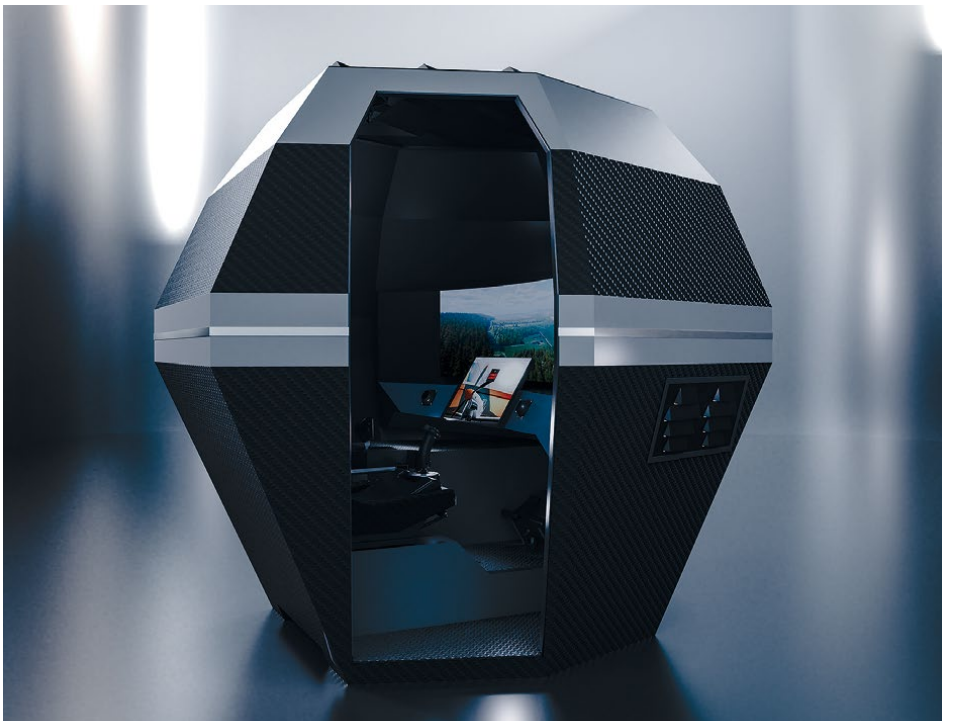
After evaluating various options, we concluded that the Evidence-Based Training approach would be the most suitable framework for this development. This allowed us to move beyond individual, isolated products and offer a Total Training Solution that connects all aspects of ground and flight training.

**What is Competence-Based (Evidence-Based) Training, and how does GTS apply it in practice?**

The concept involves using all available data generated by a student to recommend an ideal training program. The process starts with the selection of suitable candidates; all results from the selection phase are incorporated to support an efficient entry into flight training. For example, if a student demonstrates lower performance in specific areas, the system automatically recommends targeted exercises to address those gaps. This approach helps both students and instructors optimize individual training paths and monitor progress.

We have fully integrated this competency-based, evidence-driven concept into our Training Management System (TMS). Over the years, all our training products have been connected

# GAMIFICATION FOR GEN Z



Pilot selection and evaluation system (PSES)

within the TMS, including the Pilot Selection and Evaluation System (PSES), computer-based training (CBT), simulators, and the actual aircraft.

Data for each trainee is collected from multiple sources, including instructor assessments, simulators, aircraft data recorders, and tools like eye-tracking. All of this information is combined to form a detailed trainee profile. This integrated data set enables the system to recommend targeted exercises, adapt training scenarios in real time, and guide instructors in making data-driven decisions for each student's development.

**How is artificial intelligence being used within the GTS ecosystem?**

AI is already shaping the future of flight training by making programs more adaptive and responsive to individual pilot needs. One example is the development of AI-generated missions, which can introduce new challenges in each scenario and require pilots to make real-time decisions. This technology has the potential to continuously challenge pilots and accelerate skill development.

At Grob, we apply AI in our Training Management System (TMS) to analyze training outcomes and recommend personalized next steps for trainees. We are currently exploring advanced applications in our research and development activities, such as voice and language processing or deeper performance analytics.

**What role does gamification play in GTS, and why does it matter?**

When discussing gamification in modern flight training, there are two important aspects to consider: the application of game-based methods, and the role of realistic immersion.

First, most new flight trainees today are under 30 and part of Gen Z, so they're used to digital tools and gaming from a young age. That's why bringing gamification into flight training, using features like challenges, scoring, and progress tracking, helps keep them engaged and makes the learning process more effective and familiar.

Second, the quality of realistic immersion, better graphics, higher performance, and realistic environments, also enhances the gamification effect. When trainees are highly immersed, they are more likely to internalize skills and respond naturally to real-world scenarios, making learning both engaging and effective.

For example, in our CBT system, we put trainees in realistic situations, like handling a generator failure in flight, where they have to use emergency procedures and make decisions to complete the mission. Our Evidence-Based Learning system also uses a scoring model, so trainees can see their competency scores and try to improve them over time. On top of that, we make sure our flight simulators are highly immersive, with realistic graphics and scenarios that feel close to actual flying.

Mixed reality FSTD

**Interview by: Katerina Urbanova**
**Photo credit: Jiří Sýkora, GROB AIRCRAFT SE**

# NEW TECHNOLOGIES AND OPERATIONAL PRACTICES ARE INTRODUCING NEW RISKS AND CHALLENGES FOR INSURANCE RISK CONSIDERATIONS

Industrial and societal developments are introducing new risks across all sectors of human activity – and aviation is, naturally, no exception. How does an experienced insurance broker with a global presence view this evolving landscape, and what challenges and opportunities do they identify?

### INCOMPLETE SAFETY INFORMATION

One of the main challenges for insurers and insurance brokers is the inconsistency of safety information provided by companies in the aviation sector. The lack of standardised reporting formats can lead to difficulties in accurately assessing the risk profiles of our clients.

### BARRIERS TO COMMUNICATION

Effective communication between aviation companies, insurers and insurance brokers is essential for accurate risk assessment and management and for achieving the best results for all parties. However, communication barriers can exist due to technical jargon, differing priorities and a lack of mutual understanding of each other's operational challenges. Bridging these communication gaps is essential for fostering effective collaboration and enhancing risk mitigation.

### QUALITY DATA ACCESS

Insurers and brokers rely heavily on data to assess risk and set premiums. However, the availability and quality of safety and operational data from aviation companies can vary significantly. Incomplete or poor-quality data can prevent insurers and brokers from accurately assessing risk and can lead to less favourable terms for insured parties.

### ANALOGY IN APPROACHES BETWEEN AVIATION AND INSURANCE

Both aviation companies and insurers are focused on identifying and mitigating risks in order to safeguard operational safety and financial resilience. They rely heavily on data analytics and continuous improvement to enhance their risk management practices. In addition, both industries recognize the importance of a strong safety culture and the need for effective communication and information sharing. ►

# Safe in the air and on the ground

## Risk Management | Insurance | Claims Settlement

RENOMIA AVIATION SOLUTIONS are designed to cover the full scope of aviation risks – airlines, general aviation from flight schools to bizjets, airport operations, aircraft manufacturing, aviation components production, piloting and services related to aviation like handling, service and maintenance, refuelling and onboard catering.

With operations in 13 European countries, we are the leading provider of insurance and risk management services on the CEE aviation market, but you can use our expertise and experience anywhere in the world. RENOMIA specialists will custom-build an insurance solution for you.

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### ► DIFFERENCES IN APPROACHES BETWEEN AVIATION AND INSURANCE

While the aviation industry is primarily focused on operational safety and regulatory compliance, the insurance sector is more concerned with financial risks and loss prevention. Aviation risks are often categorized into catastrophic risk and loss risk, with catastrophic risks being less frequent but more severe. In contrast, loss risks are often perceived by insurers as more significant due to their higher frequency and the potential for cumulative impacts over time.

### POTENTIAL AREAS FOR COLLABORATION

- **Safety Information Standardisation**: standardisation of information exchanged between aviation and insurance companies.
- **Joint Safety Initiatives:** initiatives aimed at reducing losses due to employee attrition and strengthening the overall safety culture.
- **Data Sharing Platforms:** establishment of platforms for sharing safety data and best practices between both industries.
- **Training and Workshops:** organisation of joint training and workshops to deepen understanding and collaboration on risk management practices.
- **Research and Development:** collaborative investment in research and development to address emerging risks and developments.

## NAVIGATING THE SKIES OF EMERGING RISK: CYBERSECURITY AND SUPPLY CHAIN PRESSURES IN AVIATION INSURANCE

Modern technologies, particularly artificial intelligence (AI), are amplifying the complexity and impact of cyber threats. Ransomware attacks, data breaches and IT system outages represent the most pressing concerns. To maintain its relevance to the aviation industry, the commercial insurance market must respond to this rapidly evolving risk environment to prevent gaps in protection from widening.

On the subject of airlines, here are several examples of airline risks that have evolved over time and are now listed as **major risks** on most airlines' risk maps:

### CYBER

Today's aviation industry is deeply dependent on digital infrastructure. With digitalization embedded in almost every operational layer – from avionics to reservation systems – a multitude of vulnerabilities are emerging. Technologies such as AI are significantly amplifying the impact and sophistication of cyber threats. Ransomware attacks, data breaches and IT outages are therefore now major concerns. Despite the growing threat landscape, cyber insurance in aviation remains underdeveloped. Coverage is often fragmented, with insufficiently defined policy wordings and inadequate limits.

Airlines and brokers must continue collaborating closely with insurers to address these grey areas and ensure clarity in coverage. Insurers must intensify their efforts to work with the aviation industry to properly quantify cyber risks.

### SUPPLY CHAINS AND GEOPOLITICAL RISK

The aftermath of the global pandemic continues to disrupt aviation supply chains – notably through limited availability of aircraft, spare parts, and maintenance, repair and overhaul (MRO) resources.

To ensure a**dequate protection for the aviation sector**, insurance offerings

must evolve to encompass:

- Contingent business interruption
- Non-damage business interruption (NDBI) – i.e. coverage for financial losses arising from operational disruptions not involving physical damage (e.g. cyberattacks, supply chain failures, or regulatory actions).
- Political risk insurance, with broader scope and adaptability to modern geopolitical realities.

## AVIATION INSURANCE OF TOMORROW: TOWARDS DIGITALISATION, DISPUTE EFFICIENCY AND RESILIENCE

### DIGITALISATION

Another hot topic that is ranked highly on our wish list is process optimisation and technological advancement. Most aviation insurance renewals are still burdened by manual spreadsheets, static risk presentations and various feedback loops between insurance brokers and insurers. Premium calculations, policy wording, claims notifications and expert reports also suffer from a lack of standardisation and automation. This leads to delays, increased operational costs and avoidable disputes.

### CLAIMS AND DISPUTE RESOLUTION

The claims process is one of the most important functions of an insurance company and one of the most important services provided by insurance brokers to their clients, but also one of the most frustrating: complex chains of responsibility, different jurisdictional laws, and varying expectations often lead to extended claims processing and duplicate reserving. Emerging technologies such as AI-powered loss estimation, predictive tools for early claim booking, and digital tools for prioritizing and tracking claims are beginning to address these challenges but are slow to resolve underlying data quality issues and compliance concerns. It seems clear that the level of automation for straightforward claims will be higher than for complex cases that require more specific technological support. It is likely that the human element in such complex cases will remain paramount to ensure that they are handled appropriately and in line with a client-centric approach.

### WAR RISK AND WORDING CHALLENGES

Since war damage liability insurance is essential to the operation of an airline, this issue has come to the attention of many airline boards of directors because the automatic termination clause threatens the continuity of their business. Despite the considerable energy and resources invested by insurers and insurance brokers, it is difficult to understand why the market has not yet been able to agree on a revised wording standard.

## AEROSPACE MANUFACTURERS AND AVIATION INFRASTRUCTURE: INSURANCE IMPACTS AND MARKET DYNAMICS

Ground handling risks have attracted negative attention due to the high volume of losses, aircraft repair costs and significant personal injury claims in recent years. Airside incidents involving vehicles and personnel may affect any insured party operating ground vehicles on the apron, not solely ground handling staff. Nevertheless, insurers are currently cautious about deploying high capacity in this segment. ►

► Maintenance, Repair and Overhaul (MRO) providers are also adopting a more cautious stance due to sustained loss activity within the sector. Even minor errors in aircraft or engine maintenance have become increasingly costly, necessitating a robust premium base for insurers to absorb and anticipate such exposures. Component manufacturers are competitively priced due to their excellent claim ratios. Large aerospace manufacturers possess significant purchasing leverage owing to their aggregated premium volumes, although each entity is still underwritten based on its individual performance. There appears to be growing market competition in certain risk categories within this segment.

## GENERAL AVIATION: EMERGING TECHNOLOGIES, RISK EVOLUTION AND EXTERNAL PRESSURES

### TECHNOLOGY AND DEVELOPING RISK PROFILES

New aviation technologies in various general aviation applications are creating new risk profiles and opportunities. Modern avionics, automation, and advanced safety systems are reshaping traditional risk evaluation across all segments of general aviation. Training operations benefit from advanced flight training facilities and modern aircraft with sophisticated safety systems. Business aviation features high-specification avionics, structured maintenance schedules, and enhanced safety management systems. Even traditional roles within general aviation are incorporating emerging technologies, altering both risk profiles and operational capabilities.

The range of operational tools available to the general aviation sector continues to expand. Although manned aircraft will remain essential, many operators are identifying, testing and actively deploying unmanned aerial systems (UAS) to mitigate human factor risks and improve cost efficiency.

### THE IMPACT OF EXTERNAL FACTORS

Recent global events have highlighted how external factors differently affect various segments of general aviation. Geopolitical events, supply chain issues, accidents and weather-related losses affect segments differently depending on their operational characteristics and geographic exposure.

Prolonged supply chain disruptions and delays in new aircraft deliveries have sustained high market values for older aircraft, while rising repair costs have contributed to higher claim values in the event of an incident. This affects all segments, but each has a different impact depending on the typical value of the aircraft and operating profiles. Non-operational losses caused by extreme weather events are becoming more frequent, while the issue of ground equipment congestion at busy general aviation (GA) hubs impacts operators differently depending on their operational protocols and geographic risk exposure.

## CONNECTING AVIATION AND INSURANCE: DYNAMICS OF A GLOBAL RISK PARTNERSHIP

### INSURANCE MARKET SIZE

The global aviation insurance market is a significant and key component of the broader insurance industry, with an annual value estimated at approximately USD 6 billion (as published by Flight Safety Foundation). The aviation insurance market encompasses a variety of insurance products, including hull insurance, liability insurance and war risk insurance, catering to a wide range of aviation industries, including commercial airlines, private jets, helicopters, airports and aerospace manufacturers.

Aviation insurance involves assessing a wide range of risks, from fuselage damage and liability claims to operational disruptions and geopolitical threats. Key factors influencing insurance decisions include:

- Industry-wide variables such as aircraft type and age
- Operator-specific factors such as claims history, pilot experience, maintenance procedures and operating environment
- Market-driven conditions such as capital availability, reinsurance costs and competition

### NEW TRENDS AND CHALLENGES

The aviation insurance industry is facing several new trends and challenges, such as:

- **Increased liability claims:** Higher passenger numbers, regulatory changes, and larger aircraft are increasing the potential for significant liability claims, with per-passenger payouts often reaching millions of dollars.

- **Lack of pilots:** The growing demand for pilots, coupled with a declining labor supply, poses risks related to pilot experience and the quality of training.
- **Technological progress:** The integration of new technologies such as artificial intelligence (AI) and advanced automation systems requires insurance companies to continuously update their risk models and rating methodologies.
- **Climate Change:** Increasing turbulence and extreme weather events due to climate change pose additional risks to air traffic, influencing underwriting strategies and premium calculations.
- **Higher repair costs** due to inflationary pressures and the increased expense of repairing aircraft with composite structures, modern avionics and other advanced components.
- **Environmental, social and governance** (ESG) considerations, including sustainability targets, supply chain vulnerabilities and airport infrastructure constraints.

## APPROACHES TO RISK MANAGEMENT

### AVIATION INDUSTRY

Risk management is a key aspect of both the aviation and insurance industries. Effective risk management ensures the safety and reliability of air operations, while providing financial stability and protection against unforeseen events. Understanding how these two industries approach risk management can foster better collaboration and increase overall safety and efficiency.

The aviation industry emphasizes safety through comprehensive safety management systems (SMS). These systems are designed to identify, assess, and mitigate the risks associated with aviation operations following these key components:

- **Safety culture:** Emphasising a proactive safety culture across all organisational levels.
- **Risk Assessment and Mitigation:** Identifying potential hazards and implementing strategies to manage them.
- **Data and Information Sharing:** Facilitating the detection of trends and the continuous improvement of safety measures.
- **Regulatory Compliance:** Adhering to both international and national safety standards and aviation regulations.
- **Continuous Improvement:** Routinely evaluating and updating safety procedures and systems.

### INSURANCE RISK ASSESSMENT

Insurance companies assess and manage risk in order to provide financial protection against potential losses. Their risk management approach typically includes:

- Data Analysis: Utilising historical loss data and predictive analytics to evaluate exposure.
- Risk Evaluation: Determining the likelihood and severity of various risks.
- Risk Mitigation: Encouraging policyholders to adopt preventive measures and controls.
- Underwriting and Premium Setting: Calculating premiums based on the insured party's specific risk profile.

## DRONES AND INSURANCE: A TECHNOLOGICAL ALLIANCE TRANSFORMING RISK AND CLAIMS

Insurers and insurance brokers are increasingly deploying drones for both risk assessment and claims management, particularly in emergency or disaster scenarios. Drones offer faster, safer and more efficient methods for assessing and managing claims, particularly in disaster-affected areas. This technology enables insurers and ►

brokers to rapidly collect data, enhance accuracy, and reduce costs associated with conventional inspection methods.

**RISK ASSESSMENT:**

- **Monitoring:**
  Drones can be deployed to monitor vulnerable areas, provide ongoing data on potential hazards, and enable proactive measures
- **Pre-loss:**
  Drones can be used to assess properties before a loss event, identify potential risks, and help insurers set appropriate premiums.
- **Post-loss:**
  After disasters, drones can quickly survey large affected areas and provide insurers and brokers with real-time data on property and infrastructure damage.

**CLAIMS MANAGEMENT:**

- **Remote Inspections:**
  Drones can access hard-to-reach or hazardous areas, such as rooftops or disaster zones, eliminating the need for risky on-site inspections
- **Faster Claims Processing:**
  Drones can capture detailed images and data, enabling faster and more accurate damage assessments and claims resolution.
- **Reduced Costs:**
  By streamlining the claims handling process and minimising the need for manual inspections, drones can significantly lower operational expenses for insurers.
- **Reduced Fraud:**
  Drones can help prevent fraud by providing accurate and verifiable damage evidence, making it more difficult for claimants to exaggerate losses.

Drones are transforming the insurance sector by offering powerful tools for risk evaluation and claims handling, particularly in high-risk scenarios. By leveraging drone technology, insurance companies and brokers can increase efficiency, reduce costs, improve accuracy, and better serve their customers.

Would you like to be certain that all key risks to your business — whether in aviation or any other industrial sector — are properly addressed? The specialists at RENOMIA, in cooperation with our global partner Gallagher, are readily available to support you — including an initial, non-binding consultation.

Hana Kulhova, Head of the Aviation Department at RENOMIA, a. s.

**Text by: Hana Kulhova, Head of Aviation Department, RENOMIA, a. s.**
**Photo credit: Adobe Stock, Věra Křeháčková**

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