

FOR DEFENCE AND SECURITY INDUSTRY

Review®



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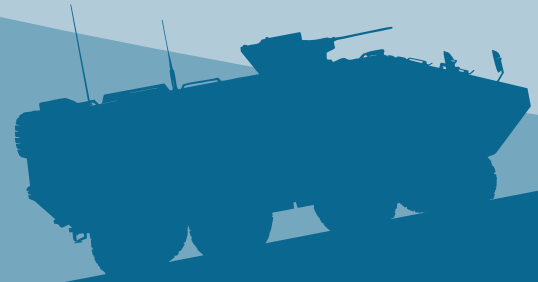
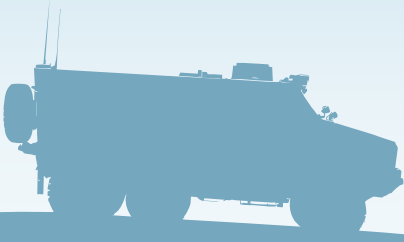


DNY **NATO** DAYS
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**New Tatra medium and heavy vehicles
for the military and security forces**
pages 18-20



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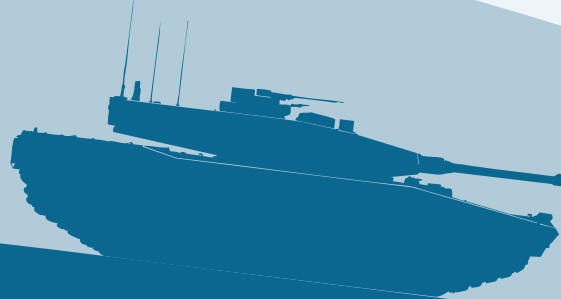
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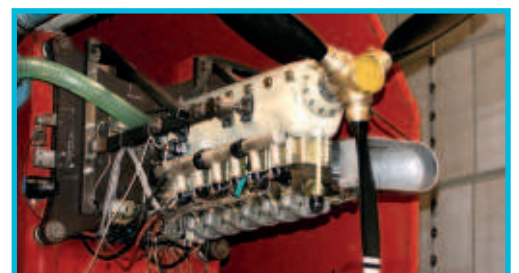


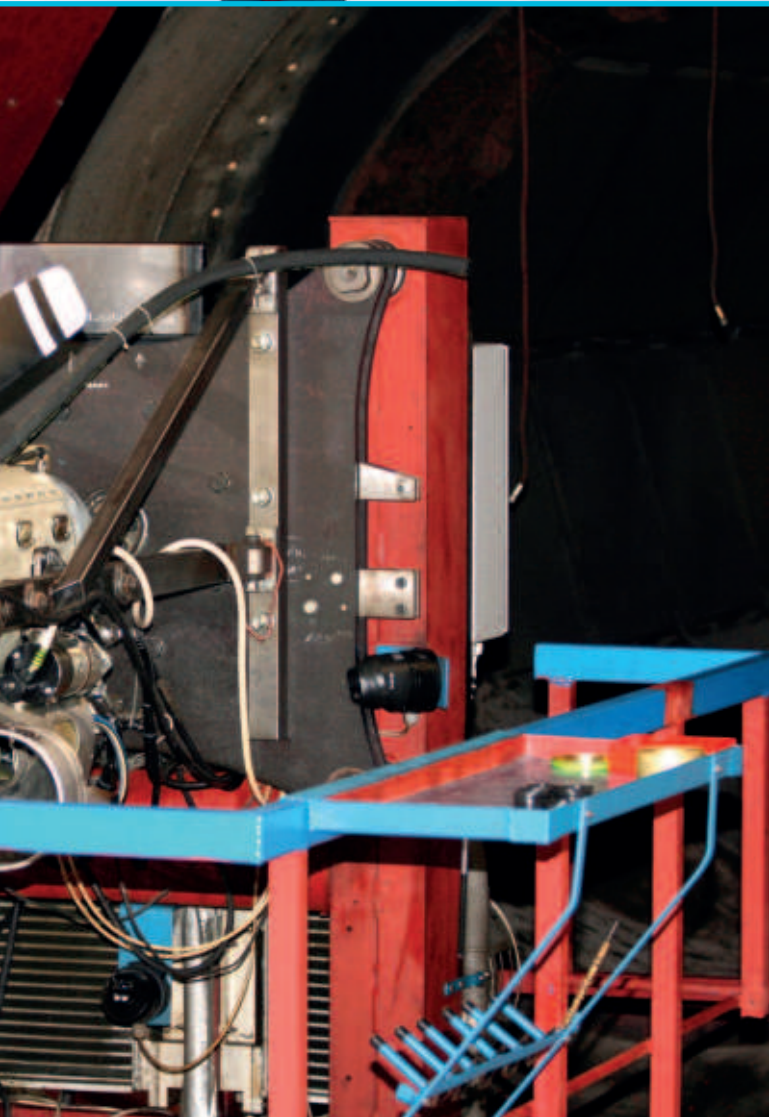
LOM PRAHA commissions unique test facility for aircraft piston engines and propellers

At the end of June 2025, the Civil Aviation Authority of the Czech Republic granted LOM PRAHA, a state-owned enterprise, authorization to conduct certification and verification tests of aircraft piston engines and propellers at its newly established test facility.

The specialized facility, part of LOM PRAHA's Propulsion Units Division, is located in Hlavenec near the twin towns of Brandýs nad Labem and Stará Boleslav. It is designed to measure the physical parameters of piston engines and propellers during certification tests. Engine testing is carried out in accordance with CS-E, FAR 33 regulations, and DOA specifications. The facility is unique in the Czech Republic for its ability to measure engine performance directly.

Equipped with modern technical infrastructure, the test stand includes specialized benches and measurement systems that allow precise monitoring of engine performance and operational parameters under various load conditions. The facility can test piston engines up to 300 kW, along with test propellers up to 2.5 meters in diameter.

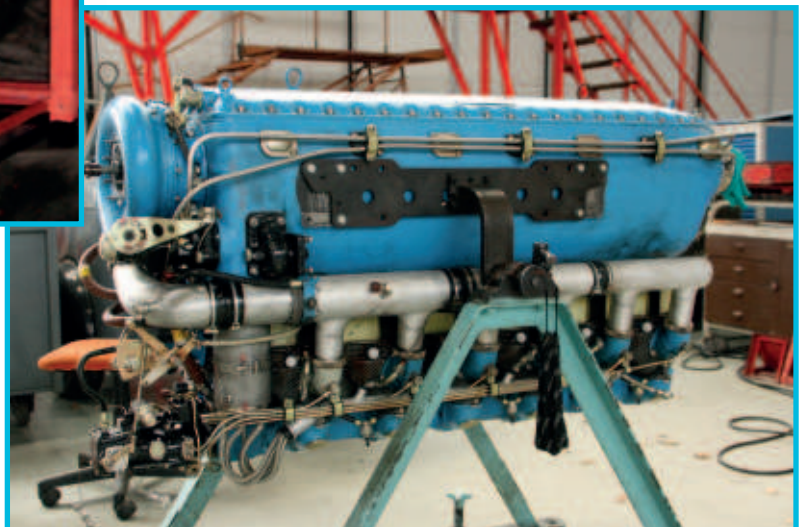




Engine performance can be evaluated both using a calibrated reference propeller and by measuring the torque of the propulsion unit. The technology supports testing in both rotation directions of the engine. *"In the future, we may increase the power of engines tested here. We can test engines with fixed or variable-pitch propellers, and with either internal or external oil supply,"* explains Marek Penc, project author and manager.

The test facility, one of the specialized units of LOM PRAHA's Propulsion Units Division, is certified for internal use but can also offer testing services to external clients. Importantly, all technological equipment for this fully digital and universal test box was designed, constructed, and manufactured in-house at LOM PRAHA.

*Author: Pavel Lang
Photo: LOM PRAHA archives*



Dear Readers,

The third issue of this year is dedicated primarily to our presentation at NATO Days in Ostrava, as well as a look back at the IDET, ISET, and PYROS 2025 exhibitions in Brno, and of course the General Assembly of the AOBP, which marked a record intake of new member companies.

Although this edition was prepared during the so-called "summer lull," we succeeded in bringing together a number of highly interesting articles and interviews, particularly with key representatives of the Czech security forces and the defence and security industry.

As always, Review offers a broad selection of company presentations and insights from across the Czech defence and security industry – fulfilling its main mission of supporting stronger communication between the state and industry within the defence and security community.

When mentioning this year's most significant events in the Czech Republic, I cannot overlook the very successful traditional event CIHELNA 2025 in Králíky, which celebrated more than a quarter of a century of its existence.

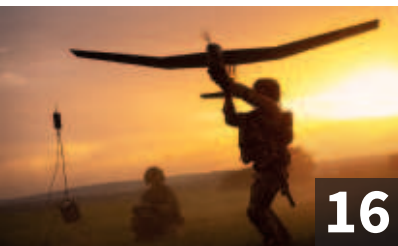
MSLine Publishing House and the editorial team of Review greatly appreciate that a large share of Czech defence and security companies continue to choose this magazine to present their activities. In recent editions, we have focused especially on showcasing medium and smaller enterprises – and we intend to continue in this direction. The membership base of the AOBP, which has grown by a record number of more than 100 new members and now brings over 220 companies, confirmed its strength and determination at the 29th General Assembly in May.

I would also like to extend my thanks to our distinguished Editorial Board, the Ministry of Foreign Affairs, the Ministry of Defence, the Ministry of the Interior and their executive bodies – the Armed Forces, the Police, and the Fire Rescue Service – as well as the Czech Customs Administration, the Prison Service, and the Administration of State Material Reserves. Their support of our work and active involvement in creating this magazine form a unique community – one that is original and unparalleled not only in the Czech Republic.

By way of introduction, these words will suffice, as I trust every reader will find many new and useful insights in the following pages.



Miloš Soukup
Editor-in-Chief



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INTERVIEW WITH JAKUB LANDOVSKÝ

The Czech Republic is a reliable medium-sized ally with significant industrial potential. On the other hand, it is often evident that we only engage in initiatives that bring us advantage or profit – what is today described as a “transactional” approach.



You served as the Czech Republic’s ambassador to NATO from 2019 to 2024. The Permanent Delegation of the Czech Republic to NATO is divided into two sections, which you led. Could you explain them in more detail?

Yes, the Permanent Delegation functions at the interface between the Ministry of Foreign Affairs and the Ministry of Defence, but we also had representatives from the Ministry of the Interior, intelligence services, and NÚKIB. The team numbered about 60 people, including more than 20 military personnel who prepared national positions for alliance policies within various committees on a daily basis.

I aimed to prevent inter-ministerial competition – during my tenure, people collaborated across agendas, whether on Russia, China, hybrid threats, or defence planning. Formally, I reported to the MFA, but most of the agenda was handled via the Ministry of Defence. Within the delegation, no one focused on internal divisions – our goal was results and the best overall alliance position that also reflected Czech national interests.

I got the privilege to choose most defence personnel sent to NATO. The diplomats from the MFA pleasantly surprised me, especially the younger ones – I believe a strong generation of diplomats is emerging.

How would you evaluate this highly important role, what were your goals, and what was your main task?

It’s quite simple – we cannot defend ourselves alone, but together we have a chance if we think and act collectively.

On the level of strategic thinking, it was necessary to respond to Russian aggression, the rise of China, and shifts in U.S. policy, as well as update strategic documents. As for collective action – from collective defence to organizing aid for Ukraine – this primarily concerned defence funding, capabilities of our armed forces, interoperability, integration into command and control systems, as well as cyber operations and related capabilities.

The environment was constantly evolving – from the withdrawal from Afghanistan,

through innovations on the Ukrainian battlefield, to efforts to maintain a unified stance on the eastern flank despite a complicated relationship with Hungary.

After returning from Brussels, you served as executive director of the Central European branch of the international non-profit Aspen Institute. What was your work and contribution to the Czech Republic?

Upon returning from Brussels, my position at the Ministry of Defence was already filled, and the minister did not request my services. I decided to leverage my NATO experience in the non-profit sector, and Aspen Institute Central Europe seemed like an ideal choice.

I sought to create a space for dialogue between conservatives and liberals, while avoiding mentoring or preaching. I believe that civil dialogue between differing opinions and genuine engagement with younger generations is missing in today’s society.

Together with teaching at Charles University, it was a very intense year. While Aspen Insti-



tute Central Europe is not yet fully accepted across all opinion groups, no one can deny our effort. I was pleased to see, for example, Jan Zahradil in friendly conversation with young Euro-optimists at one of our events.

You ended your engagement at Aspen this year and are considering returning to the Ministry of Defence, where you previously served as Deputy Minister of Defence (2014–2019) before your ambassadorial appointment. What are your current goals?

I never really left the Ministry of Defence – I remain in service there and have been back

since August. We are now discussing which services the Ministry needs from me.

Czech defence policy requires fundamental changes, which this government will not have time or mandate to implement. The war in Ukraine has again exposed weaknesses in European defence, and U.S. developments only underline that we are not well-prepared.

This government waited nearly four years before raising defence spending to even 2% of GDP. Meanwhile, we are falling behind in innovation and are still patching up past deficiencies. Furthermore, a large group of experienced military personnel is leaving at all levels. Without

people, modern equipment, and sufficient funding, defence cannot be built.

The strategic shock is not only that Russia attacked Ukraine, but that after initial failures it adjusted its approach and is systematically capturing additional territory. This is just one of the less significant global shifts – alongside China, North Korea, and Iran. The U.S. can still manage China and the Middle East, but expects Europe to take care of itself – especially regarding the Russian “bear”.

Returning to your experience as ambassador and permanent representative to NATO, how do you assess the current situation in NATO – USA vs. EU? What is the Czech Republic’s position in Europe’s security system, and how do you view the Czech defence and security industry abroad, its prospects and future?

The Czech Republic is a reliable medium-sized ally with significant industrial potential. On the other hand, it is often evident that we only engage in initiatives that bring us advantage or profit – what is today described as a “transactional” approach.

We have a strong position in areas not affected by U.S. protectionist tariffs, and many of our companies are succeeding in the U.S. market, including leaders in our defence industry.

*Interview by Šárka Cook
Photo: Jakub Landovský*

Jakub Landovský

- Since August 2024: Executive Director of the Central European branch of the international non-profit organization Aspen Institute.
- 2019–2024: Ambassador and Permanent Representative of the Czech Republic to NATO.
- 2015–2019: Deputy Minister of Defense, responsible for the Defense Policy and Strategy Section, significantly contributing to the development of the Czech Republic’s defense and security strategies.
- Former advisor to the Foreign Affairs Committee of the Czech Chamber of Deputies.
- Previously worked as a lawyer at the Forum 2000 Foundation and as a consultant at the Czech Ministry of Foreign Affairs Development Center and the UN Development Programme (UNDP).
- 2000–2002: Assistant to the UN Special Rapporteur on Human Rights in the former Yugoslavia.

ON THE CURRENT SECURITY SITUATION WITH GENERAL JIŘÍ ŠEDIVÝ



The interview with retired General Jiří Šedivý provides an informed perspective on current security threats, NATO's role, European defence policy, and the state of the Czech Army and defence industry. General Šedivý draws on his extensive experience – he served as Chief of the General Staff of the Czech Armed Forces from 1998 to 2002 and previously commanded the Czech contingent in the IFOR mission in Bosnia and Herzegovina. He attended prestigious military schools both domestically and abroad, including the United States Army War College.

After leaving the army, he has focused on security consulting and education. At CEVRO University, he leads the Department of Security Studies and oversees a program focused on crisis management. His expert opinions have long shaped public debate on defence policy and the security challenges facing Europe.

General, could you briefly summarize your view of the current security risks for Europe on a global scale?

The security environment is generally deteriorating – not only in Europe, specifically Eastern Europe, where Russian aggression against Ukraine has caused major destabilization. Overall, the risk of force being used – by both states and non-state actors – is increasing. We've seen this, for example, in the Hamas attack on Israel and the subsequent Israeli ground operation. Tensions are also high in Africa, especially the Sahel region, where Chinese and, notably, Russian paramilitary organizations operate – although officially they claim to have withdrawn, this cannot be fully trusted.

Tensions are rising between the US and China, mainly over Taiwan. Repeated clashes between India and Pakistan also contribute to instability, where force continues to dominate over diplomacy. Beyond military threats, Europe faces non-military challenges, such as growing societal radicalization partly stemming from migration waves. In Western Europe (France, the UK, Sweden, but also Germany and Austria), the negative influence of radicalized Islam is being observed. Overall, the situation is far more complex than anticipated a few years ago, and the ability of states to ensure their own defence and respond independently is now crucial.

With the Trump administration and Turkey's unilateral policies, there has been media

speculation about NATO's future. What is your view?

Turkey's challenges are not new – they date back to its EU membership ambitions and attempts to align its legislation with European standards. This never fully materialized, and some states, especially France, opposed its accession. Over time, Turkey moved away from Europe, and President Erdoğan later openly stated that his goal is not EU membership but building a regional power – which guides his actions.

This has led to numerous steps contrary to NATO policy. For example, during the fight against ISIS, Turkey did not allow allies to use the Incirlik base, or at least hesitated in defi-



ning its role in the conflict. Relations with Greece are tense, particularly over oil and gas exploration in the Aegean Sea. Turkey also purchased Russian S-400 missile systems despite repeated warnings, resulting in the US canceling the F-35 contract.

In my view, Turkey is a problematic NATO member, and sooner or later, the question will arise to what extent it is truly an ally.

As for the US, President Trump's approach is aggressive and sometimes undiplomatic, but it sparked an important debate: Europe must take greater responsibility for its own security. This challenge was already raised by his predecessors, but Trump articulates it more directly. I do not believe the US will abandon NATO or Article 5, which is evidenced by their retention of NATO command structures in Europe. NATO will likely evolve, but the basic framework will remain, with Europe assuming greater responsibility. In the future, the alliance may need to intervene in the Indo-Pacific in the event of a US-China conflict.

This relates to the future of independent European defence. A key issue is significantly increasing defence spending across the EU-27. Trump has demanded an increase to 3.5 % and potentially up to 5 % of GDP (Poland already at 4.7 %). From

your perspective, is this feasible in the given timeframe?

It's important to note that it's not just 3.5 % for defence, but an additional 1.5 % for infrastructure, mobility, and support expenditures – totaling 5 %. Eastern European countries feel the Russian threat more intensely than Western ones. That 1.5 % is not wasted; it's an investment in state development, such as airports and logistics routes.

The Czech Republic plans to gradually increase defence spending by 0.2 % per year up to 3.5 %, but the pace will depend on the economic capacity of individual states. It is crucial to understand that defence capability does not rely solely on the army – it requires a combination of military, economic, and political strength. Political instability or weak states (e.g., Slovakia) harm defence readiness. Not all countries can meet the spending requirements – for example, Italy, Spain, and Canada are significantly below 2 %.

It's no secret that the European weapon market is highly fragmented and every state competes, even within Europe. Are there solutions to this problem?

Logically, some unification would make sense – such as standardizing weaponry, which would save on operations and maintenance. Development could focus on specific products. Yet reality differs. Each state has its own economy and industry and naturally seeks to ensure that its own factories profit. States' interests remain primarily national.

Yes, there is consolidation of companies and efforts to find common segments, including by Czech firms, which is positive. But a unified European defence industry with divided competencies? I don't think so. The COVID crisis showed that in emergencies, states return to self-sufficiency.





In the EU, military procurement is often influenced by banking rules and financial sector attitudes. Your thoughts?

The banking sector once categorized the defence industry as risky or even morally questionable, which heavily impacted its development. This is changing. Some banks still limit defence investments, but the situation is improving. The EU now actively supports the sector, channeling funds into defence projects. In some countries, the defence industry drives the economy, signaling a shift in perception.

Turning to the war in Ukraine, despite countless efforts and proposals, a near-term resolution seems unlikely. Where do you see possible solutions?

It's difficult to advise. I believe a mistake was made at the beginning – we did not provide Ukraine with what it truly needed to defend itself effectively. Equipment like MiG-29s or tanks, which they knew how to operate, was underused. Meanwhile, Ukraine made mistakes too – delayed mobilization, disputes between military leadership and politicians. The issue is not just our hesitation but also internal Ukrainian problems.

Now the question is whether they can still halt Russian advances. Until Russia is stopped, there will be no incentive to negotiate. I have been saying this for two years – the primary goal must be stopping their ad-

vance. Only when Russia realizes it cannot continue will it be willing to negotiate and seek compromise.

The issue of nuclear deterrence is another hot topic. How do you see it from a European perspective?

France offered its nuclear umbrella if the US withdrew from Europe, but frankly, President Macron sometimes overestimates his country's capabilities. France has fewer than 300 warheads and very limited means to use them effectively – and lacks adequate missile defence. Using nuclear weapons without the ability to defend against a retaliatory strike is simply illogical.

The UK is in a similar position. Truly advanced missile defence exists only in the US. Strategic capacities – nuclear, space, missile defence – remain US-dominated. Europeans must focus on conventional forces and protecting European territory, and we will continue to need the US as a key partner.

How do you assess the current security situation of the Czech Republic in this divided world?

Our advantage is our location – we are at the heart of Europe, within NATO and the EU, surrounded by allies. This provides a strong starting position. Our task is to ensure the army has the capabilities to operate where





UAC company was established with the aim to diversify and expand existing production, especially for the needs of the Ukrainian Armed Forces, with ambitions to enter third-country markets. It holds all intellectual property rights and manufactures within the European Union. In addition to expanding its production and innovation center, UAC aims to tailor its current portfolio of unmanned aerial vehicles according to the standards of EU and NATO member states.

We specialise in the design, development, and production of military unmanned aerial systems.

Our Mission

We aim to deliver high-quality unmanned aerial systems to our valued customers, contributing to the safety, efficiency, and innovation of military operations.

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- Innovation – We constantly improve our products by introducing the latest technologies and solutions.
- Professionalism – Our team is comprised of highly qualified specialists, dedicated to their work.
- Reliability – We guarantee the quality and durability of our unmanned systems.

Our Achievements

- 90% of all Ukrainian military brigades on the battlefield have Leleka-100 (Stork) unmanned aerial systems in their arsenal and are successfully using them.

- 50%+ of all reconnaissance missions carried out by fixed-wing UAVs are performed by Leleka-100 (Stork).
- Our company operates two production facilities in the Czech Republic and Ukraine, with a team of over 1,000 employees.

We are proud that our products are leading the market for unmanned aerial systems in fixed-wing class.

Thanks to innovative solutions, a professional scientific approach, and high production quality standards, our products occupy a leading position in the unmanned aerial systems market within their class.

Our manufacturing processes and management systems meet the strict requirements of international standards. We continuously innovate our unmanned systems and introduce new technologies that cater to the individual needs of our customers. The company further operates in all relevant global markets.

The company has already obtained a NATO Commercial and Government Entity (NCAGE) code and is registered in the NATO codification system under the number 8400G.

Our vision includes expanding not only within the European market but also globally, aiming to become a leader in unmanned technologies.





needed. Anyone claiming the army should only defend our borders ignores the basic principles of alliance cooperation.

We must also be capable in air and missile defence. We have aviation and basic infrastructure, but it must be expanded and integrated into a larger system. Beyond military threats, we must account for hybrid attacks – disinformation, election interference, psychological operations, sabotage, and attacks on critical infrastructure. Territorial defence must be restored; its dissolution after 2002 was a mistake. Rebuilding has started, but much work remains.

How has the Czech Army changed since you commanded it?

It has changed significantly, despite long-term underfunding and budget instability. But it is unfair to judge it negatively by default – compared to some Western armies, such as the Bundeswehr, we often perform better qualitatively, not quantitatively.

Rearmament is slow, which is a problem, but personnel have changed – commanders and soldiers are now more confident, educated, and experienced. Mobilization and military service were neglected in the past, but the overall trend is positive.

Do you consider modernization of the Czech Armed Forces sufficient in terms of equipment, personnel, and pace?

This has long been a problem. It's not just funding – it's also slow processes and weak continuity. Take the Pandur armored vehicles, ordered in 2006, with delayed deliveries and incomplete rearmament. Today, the technology is outdated.

The same applies to small arms. By the time the army received the first version of the Bren rifle, Bren 2 and now 3 were already on the market. If ten years pass between the first and last deliveries, technology becomes obsolete. Interruptions in production and personnel turnover further increase costs.

This is not just a financial issue but also a management one. Soldiers should receive more education in economics and project management. Instead of protracted projects, there should be a clear plan: purchase on time, quickly, and efficiently. Otherwise, costs rise, and functional equipment is retired prematurely.

How do you assess the current state and prospects of the Czech defence and security industry?

The Czech defence industry is rising significantly – not just defence; civilian companies also contribute to creating a competitive, innovative sector. This should be recognized. Weapons are a business like any other and have economic benefits.

It is positive that firms like CZ Group or Colt operate here. We have globally competitive brands, developed our own armored personnel carrier (the last similar success was OT-64), maintained aerospace production, and are working on drones and electronics. We have much to offer.

But we must remain ambitious. If we relax, European and American competitors will quickly surpass us. Currently, we are on the rise; the question is whether we can maintain this position.

Interview by Lauren Imari Cooková.

Photos: MS Line, CEVRO, Jan Schejbal archives.



THE CZECH REPUBLIC AT THE FOREFRONT OF INNOVATION

How Will NATO DIANA Strengthen the Defence Capability of the Czech Army?

Innovation in the defence industry is becoming a key factor that determines the effectiveness and security of armed forces. In a rapidly changing world full of hybrid threats and technological leaps, the ability to adapt and implement new technologies is essential. Today, we will discuss the NATO DIANA (Defence Innovation Accelerator for the North Atlantic) program, which aims to revolutionize defence innovation and connect startups with military needs. My guest is the Director of the Defence Hub from the CzechInvest agency, Mr. Leoš Mauer, whose team is actively involved in implementing this program in the Czech Republic.

Why is the NATO DIANA program so important for NATO, the Czech Republic, and the Czech Army?

For the Alliance, maintaining a technological edge is crucial. That's why NATO adopted a strategy on accessing Emerging and Disruptive Technologies. Subsequently, the DIANA program was created to address a fundamental problem the alliance faces: how to quickly and effectively adapt new technologies. The traditional defence industry, while reliable, is less flexible. DIANA gives us the opportunity to work with agile and innovative entities, such as startups and small businesses, that specialize in artificial intelligence, cyber defence, quantum technologies, autonomous systems, and more. These technologies are crucial in today's digital world, and DIANA ensures that NATO can integrate them into its defence capabilities, thereby maintaining a technological advantage over its adversaries.

What role does the Defence Hub, operated by CzechInvest, play in this process?

The Czech Republic has a strong tradition in innovation and research. The Defence Hub is a joint project of the Czech Ministry of Defence and CzechInvest. The Hub creates a space for cooperation among entities working in the field of dual-use technologies—it includes representatives from the defence industry, research and development, academia, the

Czech Army, and institutions providing innovation funding. At the same time, it serves as a contact point for the DIANA program and operates the NATO DIANA Accelerator Czechia, currently the only DIANA accelerator in Central and Eastern Europe besides Estonia. We help Czech companies with applications for the program and ensure that their ideas are in line with the alliance's priorities. Our goal is to show that the Czech innovation environment in defence technologies has a lot to offer and can contribute to strengthening the defence capabilities of the entire NATO. Examples include the first successful Czech graduates of the program: Dronetag, whose drone solutions are already being tested by several NATO armies, Goldilock in cyber protection, and Atomiver in the development of supercapacitors. However, we are not limited to the Czech Republic; we also seek out defence technologies in countries like Ukraine and others, to bring interesting companies to the Czech Republic.

Which technological areas are a priority for NATO within the DIANA program?

They are clearly autonomous systems, especially drones, as well as cyber defence and artificial intelligence. Energy technologies and biometric data are also playing an increasingly significant role. Every army should take the lessons from the fighting in Ukraine seriously and resolve the anti-drone defence of their military facilities and units.



Leoš Mauer, NATO DIANA presentation, Kiev, Invest in Bravery conference 30. 4. 2025

Finally, how would you summarize the greatest benefit of the DIANA program for NATO?

DIANA is not just a program; it is a change in mindset. The Alliance recognises that innovations are no longer limited to large arms manufacturers, but also come from smaller companies, startups, or universities, which can be developed through established spin-offs. DIANA opens the door to new technologies and allows them to be implemented quickly. This enables the alliance to maintain technological superiority, which is crucial for preserving peace and stability in today's security environment. It remains to be seen whether individual armies can be convinced to specify their technological requirements and change the way they select and implement new technologies. "Without this, we will continue to prepare more for the past war than the future one." As the quote states, it was mistakenly attributed to Winston Churchill but was authored by the American historian David M. Kennedy.

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PART OF THE
DIANA
NETWORK





SEIZING THE WINDOW OF OPPORTUNITY TO RECLAIM THE STATUS OF AN ARMS POWER

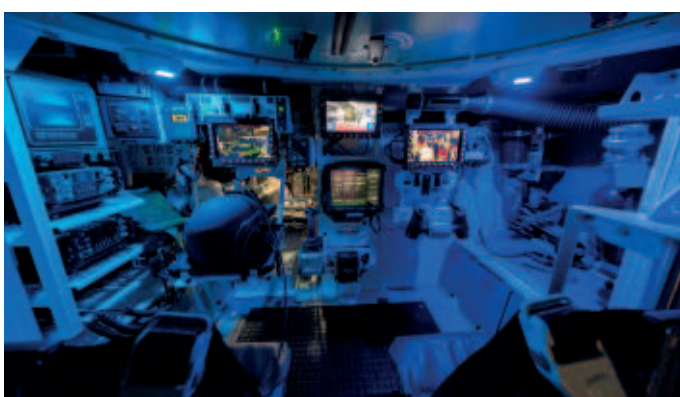
This year's International Defence and Security Technologies Fair (IDET) in Brno took place at a time when the Czech defence and security industry is experiencing a period of rapidly growing prosperity. Driven above all by the war in Ukraine, a "window of opportunity" has opened for the sector – and it was already evident at the fair.

It is clear that the era of the "peace dividend" after the Cold War, marked by low defence budgets, is over. At its June summit in The Hague, NATO decided to increase defence spending among member states to five per cent of GDP by 2035. To soften the sharp rise from today's two per cent, the increase has been split: 3.5 per cent for the purchase of new weapons and weapon systems (with NATO Secretary General Mark Rutte, for example, calling for a 400 % increase in air and missile defence spending), and 1.5 per cent for transport, infrastructure and cyber security.

The Czech government has so far decided to raise the defence budget by 0.2 per cent of GDP each year, aiming to reach 3 per cent by 2030 – amounting to roughly CZK 240 billion. New EU defence funds worth hundreds of billions of euros will also be available.

For the Czech defence industry, this is a major challenge – but also a historic chance to revive the country's tradition as a weapon power, a status it once held both in the interwar period and under communist Czechoslovakia.

Czechia is already becoming a significant munitions producer. The country's largest defence holding, Czechoslovak Group (CSG), is capable of producing both small- and large-calibre ammunition in high volumes. In small-calibre production, the company is now the third largest manufacturer in the world. Its diversified production footprint – spread across EU and NATO member states through acquisitions in Italy, the US, Slovakia and Greece – meets the criteria of European security resilience and reduces dependence on external suppliers.



But to truly become a weapon power again, it will not be enough to merely expand production capacities. As Jan Rafaj, President of the Confederation of Industry, rightly stressed, the full potential of innovation must be seized.

IDET itself offered a glimpse of "smart defence." The Pandur 8×8 EVO combat vehicle, produced by Tatra Defence Vehicle (part of CSG), made its world premiere in Brno. Equipped with advanced fire systems, including counter-drone capabilities, and offering high crew protection, it is a showcase of cutting-edge innovation.

Czechia must not become just an assembly line for the defence industry. On the contrary – it must be evident that the sector is driving major innovation, including technologies applicable in the civilian sphere. Research by the prestigious Kiel Institute for the World Economy, published ahead of this year's Munich Security Conference, estimated that Europe's long-term productivity could rise by 0.25 % for every 1 % of GDP invested in military research.

The private sector is setting the pace. Since last year, CSG has been supporting defence

and dual-use technology startups through the Presto Tech Horizons fund, established in cooperation with VC firm Presto Ventures, with planned investments of up to EUR 150 million. In May, CSG Aerospace launched the CSG AI sub-division, bringing together software teams developing AI-based solutions, such as optimizing aircraft maintenance. Both initiatives create opportunities for closer cooperation with Czech universities.

Ultimately, regaining the status of a weapon power will only be possible with a robust, efficient and innovative research and development base. This will be a major challenge for the next Czech government emerging from the October parliamentary elections.

*Author: Miloš Balabán, Security Analyst and Chairman, Prague Security Conference, z. s.
Photo: Lauren Imari Cook, MoD CR, BW Trade Fairs Brno*





NEW TATRA MEDIUM AND HEAVY VEHICLES FOR THE MILITARY AND SECURITY FORCES

This year, Tatra Trucks has been offering users from the armed forces and security forces new types of medium and heavy vehicles – the third generation of the Tatra Force model series and the modernized version of the Tatra 810M series. These follow on from their predecessors – the first- and second-generation Tatra Force and the Tatra 810, which have fully proven themselves with military operators. The company thus reaffirms its ambitions to maintain its position as one of the most important manufacturers of military vehicles in Europe and to be an important partner of the Army of the Czech Republic and the armed forces of NATO and other allies.

The third generation of the universal heavy platform Tatra Force

The production of civilian versions of the third generation of the Tatra Force series started in mid-2024, and the production of military variants also started this year. The new generation of the Force series brings fundamental design changes. First of all, these are the new low-profile cabs, whose design, compared to previous generations of the Force series, now offers the option of alternative engine mounting under the front of the cab above the front axle, or under the rear of the cab behind the front axle. Previously, the Force series only

allowed for the mounting of engines under the rear of the cab behind the front axle. Thanks to this variability, the third-generation Force series vehicles offer a wider range of cab configurations and their interiors tailored to specific needs, which is very important for the armed forces, as each army requires different parameters depending on the nature of its deployment.

The cabs are designed with an emphasis on safety and comfort. The new skeleton increases crew protection, while the low overall height of the vehicle allows passage in restricted profiles and reduces the risk of dam-

age. Integrated rollover protection is standard, and in two-door versions, protection against falling heavy objects. The ergonomics of entering the cab have been fundamentally improved, which will be appreciated not only by drivers, but also by crew members in extended cabs who spend long hours in the vehicle. The redesigned interior, with its comfort and technical level, is closer to civilian cars than to single-purpose military vehicles.

The variability of the interior layout is wide: the two-door version offers space for a crew of two to four, the four-door version can accommodate six to eight soldiers. The interior



has a modern dashboard combining classic switches with a digital display, a multifunctional steering wheel and a new air conditioning unit. Air-suspended seats can also be available, and the interior also has higher-quality insulating materials that not only increase comfort but also reduce noise.

As with previous generations, the latest generation also features armoured cabins designed and manufactured by partner company Tatra Defence. The design of the cabins allows for quick replacement of the standard cabin with an armoured cabin on the vehicle, even in field conditions. The chassis and cabins are equipped with interchangeable elements for mounting and tilting the cabin, and the electrical and air harnesses are also adapted. Precisely for the sake of easy cabin replacement, the new generation of the Force series no longer offers mechanical control of Tatra gearboxes and has switched to exclusively electronic F-shift control.

The new armoured cabins are based on the experience gained from the project of logistics vehicles on Tatra chassis for the Belgian army. Both standard and armoured cabins have unified controls in the interior to make the transition between them seamless for the crews. This allows armies to respond flexibly to the situation – during peacekeeping missions, they can use vehicles with standard

cabins, and if necessary, armoured cabins can be quickly installed on the same chassis.

The Tatra chassis concept with a central backbone tube and swinging independently suspended half-axes remains the basis for

the third generation of the Force series. Thanks to this, the vehicles retain top driving characteristics in difficult terrain and on paved roads. Customers are offered 4×4, 6×6 and 8×8 chassis configurations, while there is also the option of multi-axle ver-



sions with different numbers of driven or steered axles.

A significant innovation is the axles with the so-called right planet, the development of which took seven years. Thanks to them, the load on steered axles can be increased to up to 12 tons per axle, on non-steered axles to up to 16 tons per axle, while maintaining high reliability of the chassis in operation, even in difficult terrain. Tatra offers the new type of axles in two versions, for vehicles with a total width of 2.55 m and 3 m. Another major change associated with the new axles with the so-called right planet is the possibility of installing drum or disc brakes on vehicles with and without reduction gears according to the customer's wishes.

In addition to foreign Cummins and Caterpillar engines, Tatra offers its modernized air-cooled eight-cylinder and twelve-cylinder T3-928 RE and T3-930 RE engine series for the third generation of the Force series. The eight-cylinder engines are available with outputs ranging from 300 kW to 368 kW, and the twelve-cylinder engines from 440 kW to 515 kW. These power units meet the prescribed standards of electronic compatibility and protection (EMC, EMI and EMP) when used in military applications and retain the possibility of using alternative fuels, such as high-sulfur diesel or F-34 aviation kerosene. Operating temperatures and startability in extreme conditions are also maintained, as in previous versions of Tatra engines, down to -32 °C. Thanks to the return to Czech components, such as ČZ turbochargers and Motopal injection pumps, the new engines are more than 90% of domestic origin, which strengthens the self-sufficiency of Czech industry and the independence of the army from foreign suppliers.

The electronic control of Tatra engines allows full integration with modern transmissions. In addition to Tatra's own manual ten- or fourteen-speed transmissions with improved electronic F-shift control system, customers can choose the automated ZF TraXon or the automatic Allison. The ZF EcoLife 2 transmission has also been newly added to the offer. Tatra's development department is also working with partners on automatic CVT transmission to reduce dependence on external suppliers. This step shows the company's ambition not only to produce vehicles, but



also to actively develop key components that determine their service life and operational capabilities.

Tatra Trucks also follows trends in the field of alternative drive systems. Within the Tatra Force e-Drive series, it develops vehicles with electric motors using hydrogen fuel cells (FCEV), plug-in hybrids (PHEV), battery electric vehicles (BEV) and electric vehicles with a range extender in the form of an internal combustion engine (REX). For example, a parallel hybrid vehicle combining an eight-cylinder diesel engine with an electric traction motor and a pure electric range of 70 km could be used in military logistics operations near the front line. This would give the armed forces a vehicle capable of operating silently and with a very low infrared footprint in threatened areas, while maintaining the long range of a combustion engine vehicle during normal operation.

Modernized medium tactical and logistical vehicle Tatra 810M

At this year's IDET trade fair in Brno, Tatra Trucks presented the modernized Tatra 810M series – a medium logistical vehicle designed for the military and security forces. The new model follows on from its predecessor Tatra 810, while retaining the proven concept with all-wheel drive and a maximum load capacity of 5.2 tons. The T 810M has a chassis with a ladder frame in 4×4 or 6×6 configurations and with portal rigid Tatra Rigid axles in an improved design. The front axle is equipped with mechanical suspension with coil springs, a torsion stabilizer and telescopic shock absorbers, while the rear axles use leaf springs in a rocker arrangement.

Thanks to its high ground clearance, the vehicle has excellent off-road capabilities,

including the ability to overcome water obstacles by fording up to a depth of 1.2 meters. The total weight of the T 810 M vehicle is approximately 8.8 tons, the payload reaches 5.2 tons and the maximum technically permissible weight is 14 tons. Compared to its predecessor, the maximum weight has increased by 1000 kg and the payload has increased by more than 500 kg. The vehicle is capable of towing a trailer weighing up to 12 tons.

The vehicle is powered by a six-cylinder Renault DTI 8 engine with a displacement of 7.7 liters and an output of 206 kW equipped with a turbocharger connected to a six-speed manual transmission ZF 6S 1000 TO. The maximum speed of the vehicle exceeds 100 km/h, the range is 600 kilometers, and the gradeability reaches 60%. The car can overcome a vertical obstacle up to 480 mm high and a ditch 900 mm wide. The entire structure is designed to enable the vehicle to be transported by rail.

The cabin interior has been modernized in terms of ergonomics and comfort. The crew has access to a filter ventilation device, a mount for a Minimi machine gun, weapon holders and a circular roof hatch. The floor and engine cover are ballistically protected. The new design of the front mask refers to the Force series styling, the transport boxes and the spare wheel holder have been redesigned for greater practicality. The compatibility of components with the previous version of the T 810 exceeds 90%, which guarantees easy maintenance and service support. This fact is key for existing users in terms of serviceability, availability of spare parts, identical operation and maintenance procedures.

Author: Daniel Potocký

Photo: Daniel Potocký, Jiří Šmíd & Tatra Trucks



Company Profile

Protect Parts, s.r.o., is a purely Czech company with the ambition to become a leader in the trade in steel products (plates or semi-finished products) intended for the military and special production, ensuring the required level of ballistic protection of the final products.

To fulfill these ambitions and goals, the Protect Parts closely cooperates with the key armour European manufacturers, as well as with the authorized research & testing institutes focused on research and testing of armor materials. Due to the nature of our activities, the company possesses authorization for military goods and dual-use material trading.

Company Product Portfolio

- Plates intended for production of military equipment, facilities and infrastructure
- Plates intended for production of special parts and parts of infrastructure for other security forces (i.e. shooting ranges, special training facilities), but also for the civil sector (banks, etc.)
- Semi-finished products and complete assemblies (cut, edged, twisted parts & workpieces) for the above-mentioned projects, made according to the obtained customers drawings

Type Of Activity

- Purchase & sale of plates with a focus on various types of armor from the world's major manufacturers
- Fabrication of semi-finished products (cut, edged and twisted parts & workpieces) according to the obtained drawings
- Cooperation with authorized research & testing institutes
- Expert consulting in the phase of prototyping as well as in the phase of serial production

Territorial Focus

In addition to the Czech Republic, also customers from Central & Eastern European countries (both, EU and Non-EU members).

Armored metal plates

The ballistic-resistant plates are the strong items of our product portfolio. They can be used in the military and civilian sectors.

Our Options

In stock armor plates from the world's leading producers

Production of semi-finished parts
– parts for the military and the civilian sector

Production possibilities
– cut parts – laser / 3D plasma
– edged & twisted parts
– drilled, milled & grinded parts

Delivery of complete sets



protectparts.cz/en

ARMOX

SSAB

ARMOX 370
ARMOX 440
ARMOX 500
ARMOX 600

RAMOR

SSAB

RAMOR 450
RAMOR 500
RAMOR 550
RAMOR 600

DIFENDER

DILLINGER

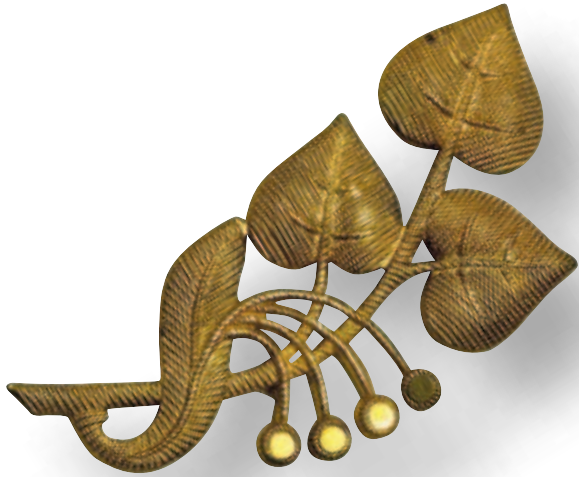
DIFENDER 400
DIFENDER 450
DIFENDER 500
DIFENDER 600

MARS

INDUSTEEL

MARS 380
MARS 440
MARS 500
MARS 600
MARS 650
MARS 650
Perforated





RETIRED GENERAL PAVEL ŠTEFKA ON THE TRANSFORMATION OF THE CZECH ARMED FORCES AND THE STRATEGIC ROLE OF DEFENCE EXHIBITIONS

In this exclusive interview, former Chief of the General Staff of the Czech Armed Forces, General (Ret.) Pavel Štefka, reflects on the milestones of his military career and the experiences that shaped his leadership. He discusses the key reform that transformed the Czech military from a conscription-based system to a professional armed force, and shares his perspective on the challenges facing the Czech Army today amid an active war on Europe's doorstep. He also comments on the pace of modernization and the growing strategic influence of international defence exhibitions on both the domestic and global security landscape.

Could you briefly describe your military career? Which turning points or key moments shaped you as a military professional?

When I joined the army in 1969—back then, it was the Czechoslovak People's Army—I had no ambitions of making it a long-term career. My motivation was quite simple: I wanted to play football for Dukla, and at the VGJŽ in Opava, football was part of the program. I was a passionate athlete—I played every sport that was even remotely accessible at the time. In Opava, it was football, hockey, volleyball, and athletics. I remember getting my first Dukla jersey—I was so proud I even slept in it. That's how my military career began.

After completing both secondary and university-level military schools, I was assigned to a unit in Michalovce—about as far east as it gets. From there, I gradually worked my way up through a variety of command and staff roles, rising through the ranks from private to general.

One of the most decisive milestones for me was studying at the National Defense University (NDU) in Washington, D.C. When I returned from the U.S., I was reassigned to the General Staff as Head of the Operations Section and promoted to the rank of general by President Václav Havel. Later, I was appointed Chief of the General Staff of the Czech Armed Forces. What I've just described

may sound simple, but the reality of the journey could easily fill an entire book. And maybe I should write it.

My time at NDU—specifically, the War College—was a crucial formative experience. The academic demands were intense (I was the only non-American in my group), but more importantly, I had the chance to study the inner workings of the U.S. military. I visited key bases and some of the most significant locations across the country. Many of the ideas and concepts I encountered there later found their way into our own military systems once I became Chief of the General Staff. Things that are now routine were, at the time, entirely new. That school prepared

me—not just academically, but for real military leadership.

I'd also highlight my postgraduate studies at the General Staff Academy in Poland (Akademia Sztabu Generalnego WP), where I spent three years immersed in an intense Polish-language curriculum. That institution was an excellent school for commanders and staff officers. The Polish have always been warriors at heart—every major conflict has swept through their country, in both directions.

When I returned and was assigned to the operations section of a division, I no longer needed handbooks or checklists to make sound tactical, operational, or even strategic decisions. A big part of that came from my mentors and senior colleagues—lessons you won't learn in any school. You're shaped not just by education, but also by practical experience in demanding leadership roles—and the position of Chief of the General Staff is certainly one of those.

Implementing the armed forces reform, fulfilling obligations within NATO's Military Committee, coordinating joint exercises and missions—all of that was a real trial by fire.

What would you say was your greatest contribution to the Czech Armed Forces during your time as Chief of the General Staff? And now, as a civilian and former top military leader, what's your perspective on the current state of global affairs?

Each Chief of the General Staff faces a unique set of circumstances, shaped by the political and military environment of the time, as well as the Ministry of Defence's available budget. My assignment from the government was clear: to ensure that the Czech Army achieved Initial Operational Capability by the end of 2006. Every decision I made during that time was aimed at fulfilling that goal.

This effort was inseparably linked to one of the most fundamental reforms in the history of our armed forces. We restructured over thirty areas, dissolved existing units and established new ones under modern organizational structures. We carried out large-scale transfers of equipment and materiel, abolished compulsory military service, and created a fully professional force.



The biggest challenge was changing the mindset. Our military had long operated under a highly centralized command model, with detailed procedures and regulations for everything. We had to transition to a system that emphasized independent decision-making and individual responsibility.

We participated in the first multinational exercises and joint operations—we succeeded, but it took immense effort across the board. Managing the army during this transition was incredibly complex. Some units were operating under the new structure, others remained in the old one, and others still were somewhere in between.

In parallel, we were fulfilling mission requirements abroad—in the Balkans (KFOR, SFOR), and in newer operations in Kuwait (a chemical unit), Iraq (a field hospital), and eventually Afghanistan, which involved real combat deployment.

Looking back, one word sums it up perfectly: **challenge**. Within NATO, we earned a reputation as a reliable and respected partner. Domestically, our daily operations also helped strengthen our role in national security, especially in coordination with the Integrated Rescue System (IRS).

Public support was tremendous—trust in the Czech Armed Forces reached 63%. While it's just a number, it reflects a deeper truth: we became a respected institution at home and abroad. In 2006, we were able to demonstrate to both the President of the Czech Republic and NATO's Military Committee that we had reached the level of NATO's most ad-

vanced members in record time. I am immensely proud of that work—and of every single person in the armed forces who helped make it happen.

Soldiers are always preparing for the worst-case scenario. Today's international situation is complex and, unfortunately, deteriorating. We must continue to build our capabilities in every domain.

The war in Ukraine is changing how we think about tactics and strategy—it's forcing political leaders to accelerate military investments. Given our outdated equipment and years of underfunding, that's the right call.

This war is showing us where our strengths lie—and where we've been neglectful, thinking we had more time. We don't. We must open every capability area to scrutiny, train rigorously, and then allocate funding accordingly. This applies to both NATO and the Czech Republic.

I also firmly believe that diplomatic avenues for conflict resolution are far from exhausted. In today's interconnected world, conflicts abroad inevitably affect us. We must not lose sight of diplomacy's potential.

How do you view the current trajectory of the Czech Armed Forces — in terms of modernization, personnel, and alliance integration? In what areas has the military progressed since your tenure, and where do you see lingering limitations?

The Czech Armed Forces have developed and adopted the relevant strategic documents



and clearly defined objectives, both for domestic defence and in cooperation with our international partners. The army is guided by a long-term vision that aligns with NATO's capability development goals. From my perspective, this development trajectory is sound and reflects the current political and military environment.

Of course, there's always room for debate about whether a particular platform—air or land—is best suited for future conflicts, or whether we are making full use of the capabilities of newly acquired systems. But that brings us back to the importance of a well-articulated vision. That vision should be broken down into long-term, medium-term, and short-term objectives, each contributing to the development of the capabilities we want to achieve.

It's often said that the personnel situation is difficult and that recruitment is falling short. I've been hearing this throughout my entire military career. Staffing challenges have always been with us—and they always will be. The key is to find sustainable solutions, and I believe the Ministry of Defence and the General Staff are actively working on that. Personally, I think it's critical to retain our current trained personnel and offer them real career

prospects, rather than obsessing over statistics about the "ageing force." Today's situation is different. A soldier in their fifties is not "old," and we need to rethink how we define and manage personnel longevity.

Over the past two decades, our army has undergone a fundamental transformation. Chief among these changes was the shift to an all-volunteer professional force. Our armaments have also evolved—they are now far more sophisticated, which naturally requires more advanced training. Foreign deployments remain a cornerstone of our operational experience. Soldiers return from missions with more confidence and sharper skills.

We have a top-tier military—physically and mentally resilient, and highly professional. And as we look to the future, with increasing automation and AI integration, we must begin preparing for scenarios that just a few years ago sounded like science fiction. That said, no matter how advanced our systems become, I firmly believe that human beings will remain the heart of every armed force. The future will still be about people—working hand in hand with advanced technologies.

One of the biggest obstacles to faster procurement of the necessary systems and ma-

teriel is bureaucracy. We've been saying this for thirty years—everyone agrees, yet little changes in practice. Our legislation allows the Ministry of Defence to approach specific manufacturers directly and conclude contracts with them. But how many such examples can we actually point to—and how many have faced intense scrutiny or even legal challenges? This is one reason why politicians tend to avoid direct procurement methods. Under some defence ministers, virtually no new equipment was acquired for the Czech Army.

Today, Minister Jana Černočová has shown the courage to act—and demonstrated that it can be done.

Another key challenge is the predictability of defence spending. Long-term financial planning is essential, especially given that military planning operates on a five-year cycle. It's not uncommon for procurement of certain systems to take four years or more. Without reliable budget projections, even the best-laid procurement plans become just a list of inaccurate figures—leading to situations like the one we're facing today: a massive financial shortfall in the defence budget and, even worse, a decline in the operational readiness of our forces.

How would you evaluate this year's edition of the military trade fairs? What stood out to you most during the discussions? What is the relevance of such fairs today, especially at a time when much of marketing is shifting to the online space?

Trade fairs like IDET, PYROS, and ISET are growing in both significance and quality every year—and I see that as a very positive trend. They're not just marketing platforms; they've become strategic events that shape how we think about defence and security.

At IDET in particular, we're seeing stronger participation from both domestic and international manufacturers. It's increasingly clear that this isn't just a showcase for equipment—it's a hub for defence and security innovation. The Ministry of Defence, the General Staff, the Fire Rescue Service, the Police, the Integrated Rescue System, universities, and private industry—all come together under one roof to exchange expertise and share visions for the future.

Another important trend is the growing interest from foreign military delegations and international partners. That tells us the Czech Republic is being taken seriously as both a security player and a producer of high-quality military and security technologies. And that's the result of long-term, consistent work.

For me personally, this year's IDET was not only a professional experience but also a deeply personal one. I received the Golden IDET Cross for long-term contribution to the defence sector, and I'm genuinely honored by that. It means a lot. It's a recognition of the journey I've taken, and the work of all those who've walked it with me.

Defence trade fairs often highlight the development of emerging technologies. Do you personally follow advancements in areas such as artificial intelligence, cyber threats, unmanned systems, or command digitalization? In your view, how is the battlefield itself evolving—and is the Czech defence industry keeping up? Do you also see growing interest in defence research here in the Czech Republic?

Absolutely. I follow it closely—and so does everyone else. The rapid pace of technological innovation is impossible to ignore. Cyber war-



fare and command digitalization have been under discussion for decades. The problem is that these systems are incredibly expensive, and after a few years, they're already outdated. Once the enemy breaks down how your system works, you're suddenly vulnerable.

This isn't my field of expertise—it requires top-tier specialists and companies working at the highest technical level. At trade shows, you often see something that looks like a simple box. At first glance, it's nothing special, but in reality, it's a vital component that needs to be integrated into your broader defence system.

Artificial intelligence is the newest frontier. Its integration into military operations is only a matter of time, and it'll have applications across all domains. The war in Ukraine clearly demonstrates the importance of unmanned aerial vehicles, which must be understood in the context of combined arms warfare.

We've seen disruptive shifts before—take, for example, the evolution of artillery or chemical corps. Poor analysis of a weapon system's potential can send you down a dead-end path. Regaining lost capabilities and rebuilding skilled personnel is a slow, expensive process.

Sooner or later, every weapon meets a countermeasure—and UAVs are no exception. One problem is the amount of misinformation that circulates. We often accept unverified reports from the media as facts. Even so-called experts pass along these claims until they're accepted as truth and quoted in official brief-

ings. And this isn't necessarily part of cyber warfare—it's just how narratives can spiral.

The Czech defence industry can't respond to every single trend or innovation, especially with the pace of change driven by the war in Ukraine. But we do have companies capable of producing heavy equipment, aircraft, weapons and ammunition, logistics systems, medical supplies, and more. For a country our size, that's a huge achievement.

Our defence industry is strongly export-oriented, which forces companies to invest in R&D and cutting-edge technologies to stay competitive. That's essential for long-term success.

Defence research here takes place primarily at universities, technical institutes, and MoD research organizations like VTÚ and VVÚ. These entities work closely with industry, which ensures the relevance of their work and helps translate research into operational capabilities.

There's significant funding for science and research through EU and NATO programmes. Unfortunately, Czech firms don't take advantage of it as much as they could, because the application process is extremely complex. It requires dedicated, trained personnel to navigate. The Ministry of Defence and AOBP are playing a key role in helping Czech companies gain access to these resources.

If we want to talk about serious support for defence research, we need to be aiming for

funding levels in the billions—or at least hundreds of millions of CZK. That would allow us to attract more researchers, both domestic and foreign, which is increasingly the global trend.

From the perspective of someone with years of experience in both trade fair organization and military leadership—what do you think the Czech defence and security industry is still lacking? What would help strengthen its international position?

That's a question better suited for the AOBP president or policymakers. But from my perspective, our defence industry is in good shape. In fact, I'd say it's world-class. We have the capacity to deliver a wide range of products to armed forces. What we need is a more systematic approach—instead of working in waves or based on headlines. That applies not only to ministries, but also to companies, government bodies, and organizations involved in development, production, and marketing.

The number of internationally recognized Czech defence firms is steadily growing—there are now over 260. That alone shows we're heading in the right direction. And around 80 % of them produce top-quality weapons and gear, most of which is exported. That level of performance simply wouldn't be possible without serious investment in R&D and the adoption of advanced technologies.

To strengthen our global standing, we need deeper involvement in international organizations and emerging consortia. These groups receive substantial funding for joint research and, later on, reap the rewards of commercializing their innovations. I'm talking about NATO, the EU, the UN, and others.

In most cases, Western European companies are the ones securing these grants, because they know how to push their agendas into programme plans. This is also a matter of representation and lobbying—especially in Brussels—where the Czech Republic simply doesn't have a strong enough presence. It's not just about diplomatic missions; it requires daily engagement within those structures.

On the bright side, our economic diplomacy is improving, and I commend the Czech government for its support during ministerial visits abroad and close coordination with em-



bassies. Visibility is everything—we need to be seen.

That means regular participation in international trade fairs, industry days, international showcases, and hosting or attending major security events both at home and abroad. As we've discussed, research and innovation are also key. Lastly, Czech manufacturers need more transparency around future procurement plans. Better forecasting would allow them to prepare products tailored for upcoming tenders.

What are you currently working on, and how would you like to apply your professional experience moving forward?

I'm still active in the security industry, particularly through my advisory role with the Future Forces Forum (FFF) trade fair. Right now, we're preparing the 2026 edition, and I'm very excited about it—especially after the success of FFF 2024. We've laid a solid foundation for growth.

We've held a series of productive meetings in the Czech Republic and abroad, and we expect to fill the entire exhibition space at the Letňany venue in Prague. We're also planning several high-level international expert conferences.

All signs point to an increase in both exhibitors and foreign delegations compared to 2024, making FFF 2026 the largest defence technology and innovation event in the Czech Republic. In fact, even now—months ahead of the fair—we've already surpassed the previous edition in terms of booked space.

I also collaborate with several other associations and institutions, which means there's not much time left for other projects. Any free time I do have, I'd like to spend on my hobbies—especially sports and travel.

*Thank you for the interview.
Adriana Jesenská*

Photo: Personal archive





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of experts, presentations
of technologies and solutions
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General Partner

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Group

that respects practice. And changes it gradually.

When innovation meets resistance: How consulting can help companies in the defence industry

In the defence industry, employee know-how is one of the most valuable assets. People who have been designing weapon systems, working with sensitive technologies, or developing defence IT infrastructures for decades have deep knowledge of products and processes. But it is precisely where knowledge is greatest that resistance to change is often strongest. And yet the pressure to innovate—in terms of technology, digitalization, and efficiency—has never been stronger.

Companies often face a dilemma: how to innovate without losing know-how and without “shutting down” the entire organization due to internal resistance? This is where an external partner can play a key role, bringing the ability to facilitate change in a sensitive manner and with respect for existing employees.

Resistance to change is not a weakness. It is a natural defence mechanism.

Another common phenomenon is strong loyalty to existing processes. It is understandable – security certifications, standardized development methodologies, or multi-stage approval processes are what employees have been relying on for a long time. In an environment where mistakes can cost lives or undermine customer trust (e.g., the armed forces or NATO), a conservative approach is natural.

However, today it is precisely the defence industry that needs to introduce new tools, more agile development methodologies, automation, and new digital elements into project and product management. And this is where the problem begins—change is necessary, but internal resources are often unable or unwilling to implement it.

External partner as an interpreter between the past and the future

An external partner – ideally with experience in the defence industry – can play the role of interpreter between the old and new worlds. Such a partner:

- **Understands the technical language** of engineers and developers who have the know-how.
- **Provides methodical guidance for change** without disrupting the internal culture.
- **Can create a “safe space“ for pilot changes**, perhaps initially at the level of a small team or a specific project.
- **Helps identify internal change leaders** who will become ambassadors for innovation.

Consulting that respects practice. And changes it gradually.

Instead of major reorganizations “from above“, we recommend a “bottom-up“ approach—change through specific processes. This is how we usually proceed:

- **Analysis with the client** – first, we work together to map out how the process actually works. Who does what, where duplication occurs, and where delays happen.
- **Planning** – together with the internal team, we propose a change that is technically feasible and at the same time does not cause too much disruption to the people who will be implementing it.
- **Pilot project** – we implement new solutions on a small scale – on a pilot basis, at the team level or for a specific product.

■ **Optimization** – based on feedback, we fine-tune the process to ensure it has a real impact. Only then do we expand it further.

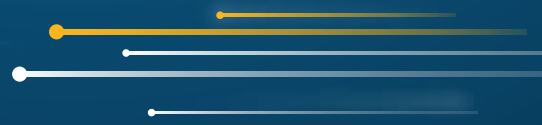
■ **Implementation** – we implement the fully optimized solution throughout your organization.

This approach allows companies to innovate while respecting experience. Consulting no longer means that an external team comes in and rewrites the company’s structure. On the contrary, the best partners ask how things work today and look for ways to improve them directly with the people who use them on a daily basis.

Why choose Akkodis

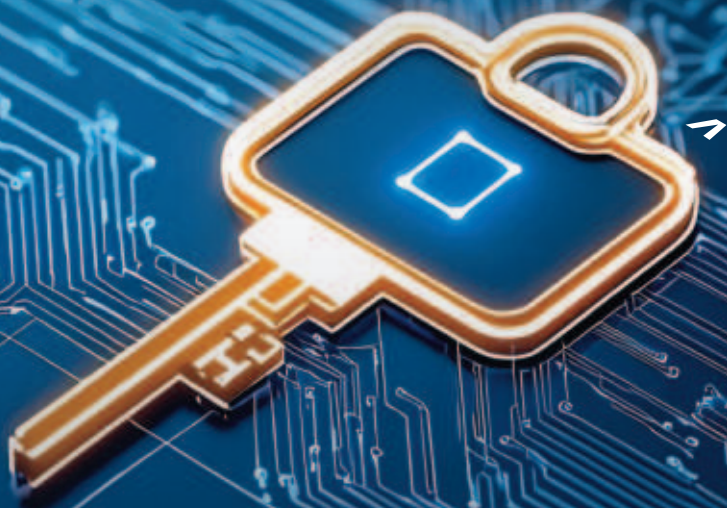
Akkodis combines consulting with engineering support. Thanks to our experience in the defence, aviation, and automotive sectors, we know how important technology and expertise are. We have also undergone many changes ourselves, from changes in the ownership structure and management, through the internal organization of the company and business approach, to the delivery of projects across sectors, so we have our own direct experience with the management, implementation, and impact of such transformations. This gives us an understanding of the situations our clients need to address.

We help companies design change in a way that makes sense to those who will implement it. We know how to innovate without losing know-how – on the contrary, we take **professional know-how as the starting point for every transformation strategy.**



Akkodis CZ s.r.o., Mgr. Marek Fiala,
Sales Director, marek.fiala@akkodis.com

AKKODIS



Marek Fiala
marek.fiala@akkodis.com

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29 years
in CZ



KOSYKA is a Czech manufacturing and trading company with firm roots in the electrotechnical industry. Founded in 1995, the company is celebrating 30 successful years on the market. The name KOSYKA is derived from the words *KOntact SYstems and KAbeláž* (cabling). Based in Jihlava, we employ 120 people and proudly continue the long-standing tradition of electrotechnical production once represented by Tesla Jihlava.



Radovan Putna, CEO, co-owner KOSYKA, s. r. o.

Our Mission

In 2023, KOSYKA entered a new era under the ownership of CEIP, which also brought a new management team. This step marked a strategic shift, expanding our product portfolio and opening new industrial sectors where we aim to play an active role. Our mission today can be expressed in a simple statement: *Electrical systems and components*.

Product Portfolio

In addition to production, we are also active in component sales. For example, we are the exclusive distributor of Franz Binder in the Czech Republic. High-turnover components are kept in stock, allowing us to respond quickly and flexibly to customer orders.

Our portfolio includes:

- Development and production of cable harnesses
- Development and production of electronic devices
- Assembly of electromechanical systems
- Development and production of industrial switchboards
- Component sales

Territorial Focus

More than 60 % of our revenues come from exports. Strategically, we focus on the European market, with sales particularly strong in Germany, Switzerland, and Austria.

Industry Segments

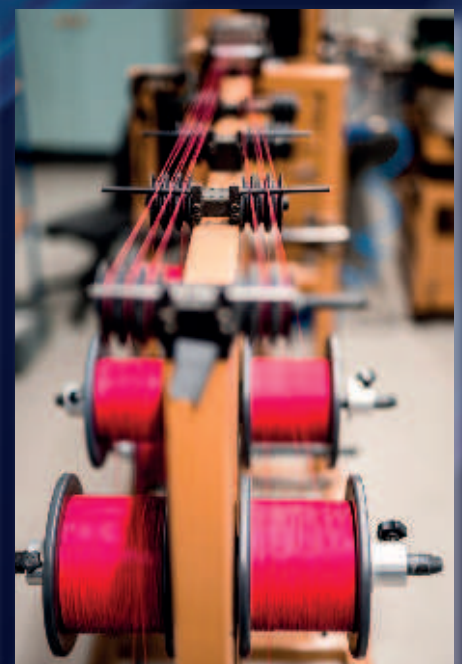
We have been certified for the automotive industry since 2005, and this sector currently represents 45% of our turnover. Other long-standing segments include industrial automation, healthcare, white goods, electronics, agriculture, rail, as well as the aerospace and defence industries.

Manufacturing Capabilities

Thanks to our technologies, we are able to deliver large series for the automotive sector as well as small and medium batches, including single-piece prototypes. We design and produce cable harnesses of any specification for virtually any industrial application.

Certificates and Quality Management

KOSYKA is a process-driven company, adhering to IPC standards and meeting strict customer quality requirements. Our certified quality management system complies with IATF 16949, ISO 9001, and ISO 14001, and is regularly audited. In 2024, we successfully obtained EN 9100 certification, opening the door to the aerospace and defence sectors. We also meet specific customer requirements and are an approved supplier for Czech Railways.



Memberships

We are members of the Defence and Security Industry Association of the Czech Republic (AOBP) and the Electrotechnical Association of the Czech Republic. Both organisations support Czech industry and its international promotion, making this membership especially valuable for our export-oriented company.

Looking Ahead

We follow a simple principle: *"What does not grow, dies."* Our growth strategy combines organic expansion—through new products, markets, and customers—with acquisitions.

Our Philosophy

We strive for constant improvement, flexible responses to change, and openness to new ideas—whether from customers, suppliers, or our employees.

Why Work with KOSYKA?

- Expertise
- Quality
- Flexibility
- Reliability
- Tailored Solutions

With in-house development and production, a skilled workforce, essential certifications, specialised equipment, logistics facilities, an online store, and above all three decades of know-how, KOSYKA is a trusted partner for the future.





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ELEKTRONIK@OPTOKON.COM



NEW PRAGUE OFFICE

The Prague branch of OPTOKON has a long-standing history, having played an important role in supporting both the commercial and technical presence of the group in the capital city. In recent years, however, the office gradually decreased in both space and capacity, and the existing premises no longer met the growing demands for efficient operations, representativeness, and technical infrastructure.

In response to the dynamic development of the group and the increasing importance of application-oriented development activities in Prague, we decided in 2025 to change our location and expand our office presence directly in the heart of the city.

You can now find us at:

OPTOKON – Prague Office
Uruguayská 380/17
120 00 Vinohrady
Prague 2

This step is not only a logistical improvement, but also a symbolic expression of our ambition to further develop commercial, technical, and partnership activities in Prague bringing us closer to our customers, partners, and key technology centers.

OPTOKON Group and Technical Education: International Collaboration Delivering Results

It has now been over a year since OPTOKON Group established a strategic partnership with technical schools and institutions both in the Czech Republic and abroad. A significant element of this initiative has been cooperation within the Erasmus+ program, which has already brought dozens of student groups to the Czech Republic as part of structured educational exchanges.

Through this collaboration, students from technical fields, particularly from Turkey, have participated in training programs held directly at OPTOKON Group's headquarters in Jihlava. These students were introduced

to the company's advanced technologies and products and had the unique opportunity to actively take part in selected manufacturing processes within various divisions. For many of them, it was the first hands-on experience with real-world high-tech industrial applications.

A key international partner in this initiative is the Turkish technical high school Automotive Industry Exporters' Union Vocational and Technical Anatolian High School, located in Bursa, working closely to support its mission of connecting education with real-world industry experience. The cooperation with this school has been instrumental in building a bridge between Turkish and Czech technical education and industry.

In parallel, we also collaborate on key innovation and research projects with leading Czech universities such as the Czech Technical University in Prague (České vysoké učení technické v Praze – ČVUT), the Brno University of Technology (Vysoké učení technické v Brně – VUT), and the Polytechnic College of Jihlava (Vysoká škola polytechnická Jihlava – VŠPJ), where we are also proud to serve as a strategic partner.

As part of this growing collaboration, OPTOKON Group has welcomed students from a wide range of Turkish technical high schools over the past three years. In 2023, we hosted delegations from Kartal Atalar Vocational and Technical Anatolian High School (Istanbul) and Mimar İzzet Baysal Vocational and Technical Anatolian High School (Bolu). In 2024, student groups arrived from Atalar

Vocational and Technical Anatolian High School (Istanbul), Eskişehir Atatürk Vocational and Technical Anatolian High School (Odunpazarı Eskişehir), Sepetcioğlu Vocational and Technical Anatolian High School and Özlem Burma Vocational and Technical Anatolian High School (Kastamonu). In August 2025, we are preparing to welcome the next group of students from Rize Provincial Directorate of National Education (Rize) and again from Eskişehir Atatürk Vocational and Technical Anatolian High School (Eskişehir).

An integral part of these educational visits includes tours and interactions with OPTOKON's long-standing academic partners in the Czech Republic. Notably, students visited institutions such as Střední průmyslová škola Jihlava (Secondary Technical School of Jihlava) and Vysoká škola polytechnická Jihlava (Polytechnic College of Jihlava). These interactions serve not only to exchange knowledge but also to establish long-term educational connections and mutual understanding.

The August 2025 training program will once again be coordinated by our subsidiary company OptoNet Communication, in close cooperation with OPTOKON Group and Czech educational institutions. The program will continue to offer a combination of practical hands-on experience, expert-led product presentations, and direct participation in ongoing projects within the company.

We firmly believe in the importance of guiding students and showing them where and how they can apply their knowledge and talents in real-world environments that match their interests. In the world of technology, success depends not only on education but also on a willingness to learn, take part in meaningful work, become part of a team that delivers complex system solutions and innovative products, and above all, ambition.

OPTOKON Group remains fully committed to creating opportunities for students from the Czech Republic and internationally. We are taking concrete steps to provide young talent with space to grow, contribute, and shape the future of technology.

Our goal is not only to discover new potential but to support it, develop it, and provide a foundation for long-term growth. The fu-

ture of technology begins with those who are just now stepping into it.

OPTOKON at the Dawn of a New Era: Innovation, Expansion, and Future Technologies

OPTOKON is entering a pivotal phase of its strategic development. Against the backdrop of increasing global demand for our cutting-edge technologies and the growing interest in Tactical Technology for Harsh Environments, we continue to strengthen our position as a technological leader. The development and production of state-of-the-art equipment such as the Dual Navigation System, ruggedized displays, Light Mobile Computing Platform and Light Mobile Radiation Sensors demonstrate our unwavering commitment to delivering advanced and resilient solutions for the most demanding conditions. All of these products are designed and manufactured entirely in-house, utilizing the full capabilities of OPTOKON Group's development and production resources.

As the volume of projects increases, the product portfolio expands, and new generations of existing products emerge, the company has taken a decisive step by expanding its production facilities in the heart of the Czech Republic. As OPTOKON Group grows internationally and enhances its capabilities, the headquarters of the OPTOKON Group is no exception as it is becoming a central pillar of this global expansion strategy.

This move follows the long-term vision of building a global production network, composed of ten specialized divisions spread across continents. A major milestone in this plan is the construction of a new modern production building directly at the company's headquarters in Jihlava, which will become a key hub for technological innovation within the entire group. The new facility will have three floors and will be fully integrated with the existing infrastructure, dedicated primarily to the production of equipment for military and defense applications. The space will feature anti-static floors and advanced equipment for working with sensitive electronics. The architectural design of the facade ensures harmony with the surrounding buildings, matching both the color and structure of adjacent warehouses and the original main production hall.



TACTICAL NETWORK

AIRDA/XARDA

Ruggedized Display Assistant

- Built for demanding military environments
- High-resolution screen with backlit controls



LMRS

Gamma Ray Detector

- IP67-rated for tough environments
- Accurate isotope identification
- Accredited according to ČMI



LMCP-28H-NGE2

Light Mobile Computing Platform

- Enhanced cyber security features
- Up to 256 GB ECC DDR4 RAM



HMA SERIES

Expanded Beam Connectors

- Built for extreme temp. from -60°C to +85°C
- MIL-DTL-83526 specification
- 2-8 fiber and electrical channels, SM/MM





TACTICAL NETWORK

FIBER DRUM

Fiber Optic Drum for Drones

- Tactical-grade optical fiber for UAV, drones
- For 500 um and 300 um fiber, up to 20 km



LMCP-7H NG2

Light Mobile Computing Platform

- Enhanced cyber security features
- Up to 256 GB ECC DDR4 RAM



LMAT-116N

Analogue Phone

- Direct connection via terminal blocks
- Built to military standards



LMSW-E33-242B

24 Port Switch

- Layer 2/3 PoE switch for tactical deployment
- Based on Cisco Embedded Service Switch



NATO SUPPLIER CODE:
1583G

However, this project is far more than a construction investment. It represents a strategic innovation initiative aimed at significantly strengthening research and development capacities and launching a new generation of high-value-added products. The expanded production will focus on components and systems for critical infrastructure, defense, aerospace, energy and other fields requiring maximum resilience and reliability.

A new chapter will also open with the development of next-generation military devices. These systems meet strict requirements for durability under extreme conditions, interoperability and deployment in demanding tactical scenarios. Among the key products in this segment are the following, with many more solutions continuously being developed as part of OPTOKON's expanding portfolio:

- **LMSP** – A ruggedized panel PC with touch screen, running Linux or Windows OS, designed for reliable operation in harsh environments including dust, water, vibration, and extreme temperatures.
- **LMDS** – A mobile data switch that enables secure, high-speed network connectivity and power backup in tactical environments, ensuring continuous communication and data flow for military operations in the field.
- **LMRS** – A gamma, beta and isotope radiation detecting sensor used to detect and identify radioactive isotopes in real time, ensuring safety, situational awareness and threat detection in military, security and critical infrastructure operations.
- **LMAC** – Atomic clocks provide ultra-precise and stable time synchronization, critical for secure communications, navigation and coordination in military and high-reliability systems.
- **LMSNS** – Dual satellite navigation system provides highly accurate vehicle positioning with spoofing detection, using independent dual receivers across GPS, Galileo, GLONASS and BeiDou constellations, ideal for UAVs, UGVs and tactical vehicles in critical missions.

An important part of this production expansion will also include Expanded Beam HMA connector systems, which are widely used in military and crisis scenarios due to their exceptional resistance to contamination, humidity and mechanical stress.

Simultaneously, OPTOKON is advancing its commercial product lines, including a significant innovation in optical testing equipment. The upcoming PM 800 and LS 800 testers will build on the success of the popular OFT 850N and OFT 920N models, offering improved precision, expanded functionality and a more modern interface.

The next project phase involves the modernization and expansion of the testing and calibration laboratory, which will enhance capacity, accuracy and processing speed for all measurement and calibration activities. This upgrade will be crucial for maintaining the highest quality standards across all product lines.

A key element of the overall modernization will also be the acquisition of advanced CNC technologies for the precision machining of parts used in OPTOKON's core products. In this regard, OPTOKON will also benefit from a strategic move by GOLDENJEST International, a.s., the parent holding company that owns OPTOKON and its subsidiaries. GOLDENJEST is preparing to launch a new production facility within the coming days, equipped with twenty-one CNC machines, including horizontal and vertical models, as well as 3-axis, 4-axis and 5-axis machining centers. In addition to CNC machines, the facility will be equipped with several CMM (Coordinate Measuring Machines) and other specialized devices ensuring the production of highly precise components and supporting stringent quality control processes.

This facility will ensure a stable supply of large and small precision metallic components both for OPTOKON and for other companies operating in the defense and commercial markets.

This new phase is more than a response to current market demands. It is a clear statement of GOLDENJEST's forward-looking vision, its ability to turn challenges into opportunities, and its unwavering commitment to positioning OPTOKON as a global leader in fiber optic connectivity and opto / electronic technologies.

OPTOKON is moving forward with precision, innovation and technological power because OPTOKON is a partner that speaks through results.

MANUFACTURING ADVANCED ELECTRONICS FOR DEFENCE/AEROSPACE



Kitron is a leading Scandinavian Electronics Manufacturing Services (EMS) company, manufacturing and supplying electronics for the defence industry since 1976. Dedicated to our customers' needs, we specialize in complex military projects. Land, sea or air applications – Kitron has your electronics demand covered.



We offer a full range of services within the entire value chain of electronics production, including development and design, industrialisation and manufacturing, product upgrades, and service/repairs.

Kitron Czech a.s. is a part of the Kitron Group, which has operations in Norway, Sweden, Denmark, Lithuania, Germany, Poland, the Czech Republic, India, Malaysia, and the United States. In each of these locations, we tailor our offerings to best suit local needs, leveraging our experience in the defence industry.

An Experienced Partner for Defence Applications

Over the years, we have collaborated with some of the world's leading and most respected OEMs, supplying electronics for high-complexity defence applications. We proudly cooperate with the leading industry companies to serve government, authorities and various corporations with products and services to ensure the safety and success of over-all operations from defence to civil security.

Our focus includes communications, surveillance, avionics, and control systems.

Offset programs with both US and European companies have positioned Kitron as an experienced partner for offset production. Our expertise lies in cutting-edge technology transfer and the adaptation of new production methods.

Over the past few decades, Kitron has actively participated in numerous programs involving production, industrialisation and supply of sub-units and complete systems for advanced military equipment. These programs are executed in close collaboration with leading international manufacturers of avionics, missiles, Command, Control & Information Systems (CCIS), and simulators.

Kitron is certified according to quality standard EN9100:2018 (technically equivalent to AS9100D and JISQ 9100:2016), defence standard AQAP 2110 Edition D Version 1, and ISO/IEC 27001 (information security management).

Our dedicated staff has a deep understanding of defence industry requirements, enabling us to address the increasingly challenging and complex information and cybersecurity risks in today's geopolitical environment.

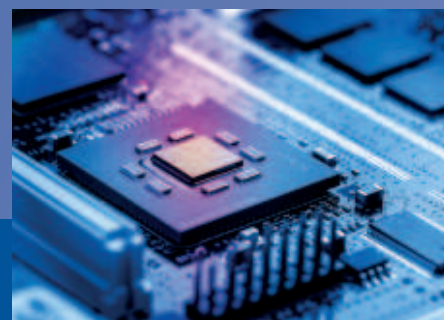
Kitron Czech: Leveraging Regional Expertise and Global Experience

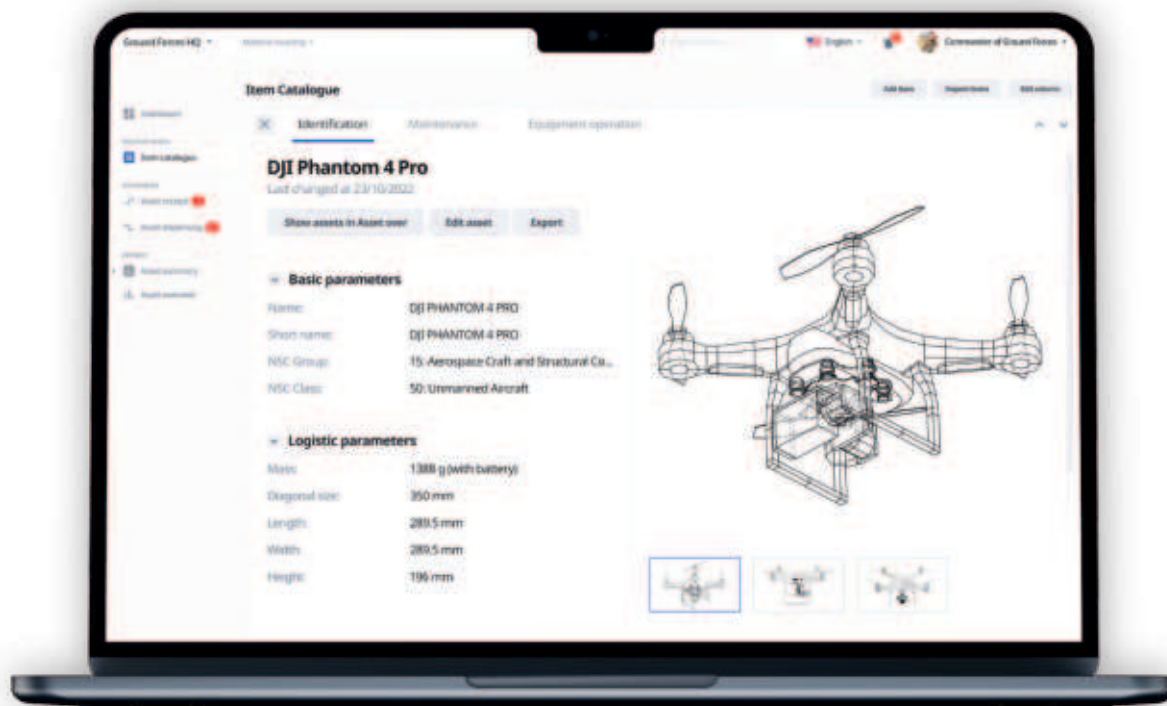
- 10,000 sqm manufacturing area
- 3 SMT lines
- 200 employees

To meet customers' high demands, Kitron Czech provides key competencies in electronic board assembly, box-build products, high-level product assembly, integrated, functional, and other customised testing systems, protective coating, NPI centre, post-production services, etc.

At Kitron Czech, our philosophy is rooted in collaboration, respect, and continuous improvement. With these beliefs in mind, we strive to ensure that every customer receives an exceptional experience.

www.kitron.com





SUPPLY CHAINS

for the Ministry of Defence and the Czech Armed Forces

Long-term experience from armed conflicts clearly confirms the importance of military logistics as one of the decisive factors for the final outcome of military engagements. In earlier wars, it was common to combine centrally managed supply of troops with the use of local resources, including destructive looting. Today's approach is primarily based on centrally managed supply from national resources, complemented—depending on the situation—by cooperation with local authorities and certain groups of the civilian population. Modern military strength rests on the volume and complexity of military technologies, the training of crews, operational art, and, critically, the sustainability of those forces during long-term operations. In medium- and large-scale conflicts, decisive roles are played by modern military technologies, fuels and lubricants, ammunition, communication and satellite technologies, food, water, and the replenishment of units with highly trained specialists. This reflects significant quantitative and qualitative changes in logistics requirements.

Supply Chains

Military strategic elements monitor and analyse technological developments in warfare and adapt their processes, organizational structures, equipment, and training accordingly. A key process in this area is logistics support, in which supply chains play a central role.

The organisational elements of the Ministry of Defence (MoD) and the Czech Armed Forces (ACR) are currently supplied with materiel in order to support operational tasks through replenishment, modernisation, or replacement of military equipment and armaments, and to maintain weapons and equipment in an operational condition for the fulfilment of training and operational

tasks. This represents a complex system of logistical support, ranging from the provision of spare parts, their storage, transport and delivery to maintenance facilities, through to the specialist activities associated with specific repairs and maintenance.

Strategic Decision-Making

Achieving these objectives requires a series of strategic decisions, including which equipment will be maintained by commercial providers and which by internal resources and capacities. Such decisions must consider factors such as the technical complexity of the weapons and equipment, the frequency and scope of required maintenance and repairs, the necessary range of spare parts and

consumables for their execution, the demands on technological facilities both in peacetime garrisons and in field and operational deployment, the requirements for mobility in the field, the protection of mobile repair and recovery assets, and other factors.

When maintenance and repair are carried out internally, it is necessary to ensure ongoing professional training for personnel and, above all, to calculate stock requirements, define storage sites, and set up processes for supply and distribution to end users. Similar considerations must be made for the provision of food, medicine, fuels, and ammunition.

Supply is now commonly understood as the process of delivering materiel to military

warehouses and subsequently from those warehouses to the "military consumer." Materiel (items of supply) is provided by contractors who meet the conditions of public or restricted tenders. However, this approach works in peacetime or in situations where there is no risk of delay and security is not under immediate threat.

The Russia–Ukraine war illustrates the necessity of dynamically addressing the "security and substitutability of central strategic suppliers in supply chains", while also developing a network of civilian entities capable of providing spare parts for selected equipment and weaponry, refueling services, and certain repair and maintenance functions. These civilian entities should serve both regional supply chains and, where possible, central needs. Strategic suppliers should be tasked with contingency planning for backup production of critical equipment and materiel in case parts of their production capacity are compromised.

In a similar way, it is also necessary to consider the provision of services for personnel, such as accommodation, catering, laundry, medical assistance, and so on.

Efficiency of Logistics Services

Recent lessons show that even in conflict situations it is essential to demand and maintain efficiency in logistics management to ensure the effective use of available resources. Such efficiency cannot be achieved without information support. Taking into account the characteristics of modern conflicts and their impact on logistics, it becomes clear that achieving strategic objectives requires registering all available suppliers of products, spare parts, and services not only at the national level but also regionally. These suppliers must then be continuously assessed according to key characteristics.

Given the expected dynamism of situational changes and logistics needs, along with the requirement to execute tasks rapidly and with local knowledge, it is clear that procurement contracts in support of logistical provision cannot be implemented solely at the central level.

It will therefore be essential to develop the capability to establish new independent pro-



urement units dynamically at the regional level (for example, under the command of territorial forces) and, through these units, to conclude contractual arrangements for regional logistical requirements – within the selected area – in shortened timeframes. Such offices, strengthened by logistics experts with materiel knowledge, should build directly on local supplier registries. The consumers of these products and services may include both national forces and allied units.

The supporting logistics information system must be able to dynamically establish such acquisition offices and define their links to central procurement. A crucial element of this support is access to an information system that enables international identification of required materiel in accordance with the NATO Codification System (NCS) standards.

Integrated Information System

A modern information system should include capabilities to identify spare parts for equipment directly at the site of maintenance or repair. Core functions must include the integration of manufacturer catalogues with materiel identification systems compliant with NATO standards. The system should also support visualization tools for equipment maintenance and repair, including technical breakdowns of equipment and relevant supplementary manuals. It is essential to have information support available also in offline mode. A comprehensive information system

should also be able to instantly identify the nearest location of a required spare part, whether within the national structure, allied units, or civilian suppliers at the regional level. Communication in a multinational environment requires the ability to identify materiel in line with the NATO Codification standards and communicate effectively with allied organizations. Artificial intelligence will play a significant role here, as success on today's battlefield is impossible without digital information support, secure digital communications, and comprehensive security services.

Modern conditions also require the ability to reconstruct supply chains for a specific equipment type, a particular central delivery, or a regional-level delivery.

Features of a modern information system in the field of the 'Chain of Supply' include the ability to identify additional potential suppliers based on specified characteristics, territory, or specific materiel, at both national and regional level.

AURA already provides the Ministry of Defence and the Czech Armed Forces with a range of selected capabilities and is ready, in cooperation with the Ministry's logistics authorities, to expand and enhance information support for current logistics needs at both strategic and tactical levels.

*Text: Jaroslav Řeha
Schéma a foto: archiv AURY*

THE CZECH COMPANY AKM GROUP-CZ

develops joint productions and increases the amount of ready-made military goods



The defence market today faces a number of systemic challenges: full-scale war in Ukraine, conflicts in the Middle East and Africa – all of which are increasing demand for weapons. Last year, 2024, was a record year for global military spending, which reached \$2.56 trillion. Against the backdrop of military conflicts and geopolitical instability, there are growing queues for the supply of mines, shells, missiles and air defence systems.

Several years ago, the management of **AKM GROUP-CZ** set a clear priority: to develop production capacity as one of the company's key areas of focus. Our goal is to quickly meet our partners' needs for military products and maintain high standards of quality and reliability.

In 2023, **AKM GROUP-CZ** began preparatory work to launch joint production of weapons and ammunition with its partners.

By the end of 2024, **AKM GROUP-CZ** already had experience in the joint production of large-calibre cartridges, large-calibre machine guns, and filling mortar shells with explosives.

The end of 2024 was marked by the formation and approval of the Production Ramp-up Programme. And already in the first half of 2025, the company began to ship the first 120-mm mines produced jointly with partners, manufactured at facilities in one of the European Union countries.

Also, in the first quarter of 2025, testing began on prototypes of a large-calibre .50 BMG Browning machine gun. The tests were successful. In the second quarter, serial production was launched, with the first 70 units manufactured.

The next stage will be testing this product at the end user's test range, followed by combat testing. This will be followed by certification and codification in accordance with NATO standards.

The AKM Group-CZ team worked hard with a team of designers to develop design documentation for the production of a 40 mm NATO standard automatic grenade launcher. The first prototypes are expected to appear in the coming months, and testing of the weapon at the test site will begin.

In addition, work is underway to prepare for the joint production of 155 mm artillery ammunition, as well as the production of grenades for automatic and underbarrel grenade launchers. To date, the design documentation has been successfully completed, trial batches of ammunition have been produced, and testing is underway. There is still a lot of work ahead: testing at the end user's test range, product certification and codification according to NATO standards.

'The successful launch and implementation of joint production is part of AKM Group-CZ's systematic approach aimed at ensuring regular supplies of military products to our end users,' noted Jaroslav Nadvorník, member of the board of directors of AKM Group-CZ.



<https://www.akmg.cz/>



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DATA, NOT INTUITION: HOW ANALYTICS ARE SHAPING THE FUTURE OF DEFENCE SUSTAINMENT

Armed forces across the globe are grappling with a familiar paradox. While the demand for operational readiness and availability of increasingly sophisticated – and expensive – platforms continues to rise, defence budgets remain under unrelenting pressure. The imperative for efficiency has never been greater.

The answer, argue many in the sector, lies in rigorous **Life Cycle Management (LCM)** – a discipline that fuses data-driven analysis with predictive modelling to balance cost, logistics, and capability across the entire service life of a system.

From Stockholm to the World

Few names are as closely associated with this approach as Sweden's **Systecon**. For more than four decades, the company has been refining advanced analytical methods and software solutions to underpin sustainment decision-making. Its flagship platform, **Opus Suite**, is now deployed in over 25 countries and has become something of a benchmark in the defence community.

From defence ministries to procurement agencies and OEMs, Opus Suite is providing a shared framework to evaluate readiness, cost, and support solutions with a degree of fidelity once unimaginable.

The Case for Evidence-Based Sustainment

At the core of Systecon's philosophy is a deceptively simple proposition: decisions on acquisition, operations, and sustainment should be **evidence-led**, not solely driven by intuition or historical precedent.

Opus Suite allows thousands of potential support scenarios to be modelled and stress-tested. Whether it is determining optimal spare parts holdings, repair facility locations,

or maintenance schedules, the platform provides commanders and planners with actionable insight into how choices will affect both **force availability** and **through-life cost**.

Digital Twins: A Strategic Enabler

Central to this is the creation of a **digital twin** – a high-fidelity representation of a platform, broken down into functional blocks and governed by real parameters such as **Mean Time Between Failures (MTBF)**, **Mean Time To Repair (MTTR)**, and service intervals.

This model provides the foundation for running **what-if analyses**, optimising spare inventories, and predicting long-term sustainment demands. Importantly, it is not static. The digital twin can



be continuously updated with operational data, sharpening predictive accuracy and creating a transparent evidence base for dialogue between governments and industry partners.

For complex systems – from armoured fighting vehicles to fifth-generation fighter aircraft – digital twins are fast becoming indispensable to sustainment planning.

Lessons from the Field

Systecon's solutions have already been applied across a wide range of platforms and services. Collaborations with **Saab, BAE Systems, Thales, Lockheed Martin** and the **US Navy** have demonstrated significant impact.

Whether optimising support for the **JAS 39 Gripen**, refining sustainment models for the **F-35**, or streamlining naval logistics, Opus Suite has repeatedly delivered measurable results: in some cases, up to **30% reductions in sustainment costs**, coupled with higher levels of availability.

The Czech Perspective

The **Army of the Czech Republic** now faces the same imperative. With major investment

in infantry fighting vehicles, the **H-1 helicopter fleet**, and forthcoming **fifth-generation combat aircraft**, the question of long-term sustainment is no longer secondary – it is central to operational viability.

Here, **PragoData a.s.**, Systecon's exclusive partner in the Czech Republic, is bringing Opus Suite and associated expertise directly to Czech defence stakeholders. The aim: to embed world-class planning and optimisation capabilities within the national sustainment enterprise.

Towards a Common Language

Beyond efficiencies, analytical platforms such as Opus Suite play another vital role – they create a **shared language** between government and industry. Ministries of Defence can specify requirements for availability in quantitative terms, while contractors can demonstrate, through validated models, how their solutions will meet or exceed those expectations.

This fosters transparency, reduces the risk of unforeseen cost escalation, and strengthens accountability across the acquisition and sustainment cycle.

Looking Ahead

As military platforms become more complex and security environments more contested, effective life cycle management is no longer a support function – it is a strategic necessity. Nations that embrace advanced modelling and analytics will not only safeguard readiness but also ensure that every defence pound is spent wisely.

Systecon's message is clear: the future of defence modernisation is not only about acquiring new platforms, but also about **smarter stewardship of those already in service**. For the Czech Republic, this offers a chance to join a growing cadre of nations that are leveraging analytics to plan better, decide faster, and protect more effectively.

Tomáš Ječný, Business Development Director, PragoData a.s., www.pragodata.com

pragodata

agados

at the **IDET 2025** trade fair



AGADOS, a traditional Czech brand that has been manufacturing trailers since 1992, participated in this year's prestigious IDET international defence and security technology trade fair in Brno. With over thirty years' experience in the industry, AGADOS has become the largest domestic trailer manufacturer and one of European leaders in the up to 750 kg and up to 3,500 kg categories. Its products are renowned for their exceptional quality, durability, and reliability, even in the most challenging conditions.





At IDET 2025, Agados presented a total of eight exhibits across two exhibition areas – indoor and outdoor. This dual exhibition format provided visitors with a comprehensive overview of the company's current portfolio and innovations in specialised trailer technology for the armed forces.

The indoor exhibition featured three exhibits showcasing modern design and technological solutions. One of these was a modular off-road trailer with independent wheel suspension, which excels in difficult terrain. Thanks to the ability to easily change superstructures on a single chassis, it offers high versatility of use. Also on display was a trailer for installing a power generator, as well as the versatile and light VZ-23 model, which can be customised to meet specific customer requirements and equipped with various technologies.

Five exhibits were presented in the outdoor area, which visitors could examine in detail in a real-life setting. Highlights included the ADAM transporter with a firefighting ATV, the AGA ULT field kitchen (from which goulash was served during the fair) and the DONA Strong multifunctional trailer, which is designed for



transporting equipment and materials. Also on display was the UVA 700 mobile water treatment system, which has a capacity of 700 litres per hour, and Agados presented a new trailer for transporting 20-foot ISO containers with payload of 14 t.

Participation in the IDET 2025 trade fair presented Agados with an important opportunity not only to showcase its product portfolio, but

also to demonstrate its ability to meet the specific requirements of the armed forces and security services. The exhibits clearly demonstrated the width and variability of the production programme, ranging from tactical trailers to customised logistics solutions.

Agados thus confirmed its position once again as a reliable partner in the field of trailer technology for the defence sector.



OUR PRODUCTION IS FULLY SELF-SUFFICIENT AND INDEPENDENT OF COMPONENTS FROM ABROAD

ZEVETA Bojkovice has been featured in our magazine for more than a quarter of a century. Over that time the company and its management have repeatedly been recognized in the press for excellent results in development, manufacturing and trade. It is a unique and historically important Czech munitions producer. For that reason – and many others – we asked ZEVETA's CEO and Chairman of the Board, Radoslav Moravec, for a short interview.

Mr Director-General, you have now been in office for 25 years. What, in your view, has changed most importantly in that period?

I joined Zeveta in 2000, at a time when the company needed to be rebuilt. It was also an era when many people assumed we might no longer need defence production – that it was an outdated line of business. The events of the last few years have shown how wrong that assumption was.

For most of modern Zeveta's history we focused on ordinary civilian engineering production, which between 2000 and 2021 accounted for up to 90 % of our total output. That production was primarily aimed at the automotive sector.

However, we never abandoned what created and sustained the company for decades – defence production. Between 2005 and 2008 we carried out a large contract for the Army of the Czech Republic involving the disposal of old ammunition stocks. Since 2009 we have been steadily modernising our most famous product, the RPG-75 anti-tank weapon. That work also laid the foundation for our own development of a complete range of new hand grenades that we offer today.

The single most important change over the past 25 years, though, is that our production has become completely self-sufficient. Whereas military production used to be built on a chain of subcontractors across the country, experience taught us that we can only

rely on ourselves – traditional supplier chains essentially collapsed. All our defence products are now manufactured entirely in the Czech Republic, including the most demanding components: explosives and the initiation chain.

Zeveta Bojkovice has over the years established itself as a traditional and, in the Czech Republic, unrivalled manufacturer of pyrotechnics and hand grenades. What are your current priorities within that product range?

From our product line I would single out the modernised RPG-75. Although this year marks the fiftieth anniversary of its introduction into service, we have thoroughly up-

graded and modernised it. It remains a highly relevant and irreplaceable weapon – light, easily handled by a single soldier, and not demanding in terms of training. Experience from the conflict in Ukraine shows that it is indispensable for this type of warfare. Since 2009 we have developed new types of ammunition for the RPG-75, notably thermobaric and combined perforating/thermobaric rounds, which have significantly expanded the weapon's range of uses.

Since 2017 we have worked on our own new family of hand grenades, which now offers a comprehensive assortment for varied use: offensive, defensive and thermobaric grenades. This approach has two major advantages: uniform handling, which simplifies training and employment, and broad applicability. A thermobaric hand grenade can be used to neutralise vehicles, fuel depots, trenches and light enemy fortifications. For a soldier in the field this is a fundamental change.

Other important products include smoke agents for protecting combat vehicles, flares for protecting aircraft, and – beyond the Army – we supply the Police of the Czech Republic as well. Those products include breaching charges, signal flares and similar items. We can, on customer request, manufacture virtually anything related to pyrotechnic production.

You are accomplished manufacturers and excellent traders – how is your work on research?

Research and development are an indispensable part of what we do. When a fuze supplier literally vanished overnight, we introduced our own production of explosives. This is the most demanding part of production, staffed by people with many years of experience; the process itself is a kind of alchemy. The important point is that we created a fully self-sufficient production capability on our own territory, independent of foreign deliveries. That is absolutely key to the Czech Republic's defence capability.

Development of new ammunition is continuous here. Because development takes place directly in our Bojkovice plant and is fully integrated with manufacturing, we can react very quickly to new requests from the army and other customers. For example, we



Thermobaric grenades for the Czech Army

adapted an existing thermobaric grenade to the Army's requirements in a very short time by altering the size of its filling.

We are also further improving the RPG-75. We recently fitted it with a sight that provides night and thermal vision, so the weapon can be used very effectively at night and in conditions of reduced visibility. That expands its operational envelope.

Do you primarily supply the Army of the Czech Republic and other domestic security forces, or do you focus on exports?

We supply our products worldwide – to Latin America, to Asia and across Europe. Exports account for more than half our production. It's important, however, that our priority is

and will remain ensuring the defence capability of the Czech Republic. Export production provides financial stability, and we invest much of the proceeds at home. We are expanding production capacity so we can prioritise deliveries to our own army if needed. We also finance much of our development from the funds we earn this way. In the past, army development was typically state-funded; today, with regard to our ammunition production, we finance it ourselves.

What has changed for you in connection with the war in Ukraine?

The year 2022 exposed the harsh reality of changed security conditions in Europe. At that time we produced and delivered the first series of RPG-75s for Ukraine within 30 days;



RPG-75 – the company's best-known product, introduced into service fifty years ago but continuously upgraded; currently fitted with a sight that enables night use – night vision and thermal imaging.

Ukrainian soldiers began using them in the fight for their country. Since then we have delivered more than 40,000 units and production for Ukraine has been running practically continuously.

Above all, it showed that defence production matters, that the Czech Republic needs it, and that our approach was correct – it is simply essential to have all critical parts of production under full control. Not only so we as a manufacturer can produce and deliver, but so the state has assured supplies on its own territory if required.

One of your core companies is ZEVETA Ammunition a.s. How do you evaluate its activities?

Zeveta Ammunition houses our specialised production: ammunition, pyrotechnics and related products. This part of the business has grown significantly over the past three years. Because we have a large manufacturing site and are continually expanding its capacities, we are prepared for further growth of these operations if necessary.

In recent years we have invested substantially in expanding and upgrading the production site, in transport infrastructure, and in recruiting and training new staff.

You have been active exhibitors at global trade fairs for at least 30 years. We first met at the Pretoria fair around the turn of the millennium. Can you briefly tell readers about your current exhibition activities?

We participate in fairs practically all over the world, from Europe to Asia. This spring visitors interested in defence technology could see us at IDET, where interest was very strong. We also recently took part in the MSPO defence industry fair in Poland. Our northern neighbour is an important customer and demonstrates that if you are serious about defending your country, you need to invest in it.

We've covered the company's past and present. What are your goals for the future?

Our aim is to be not only a reliable manufacturer but also a responsible company. In addition to continuous product development, we invest in what is today called corporate social responsibility or ESG. We started long ago – it's not a fashionable trend for us. In recent years, for example, we established a deer enclosure on our site, keep our own beehives and produce branded Bojkovice honey. Next year we plan to install a photovoltaic power plant on the premises.

Our responsibility also extends beyond the Zlín region, where our specialised production is located. We have a subsidiary, Strojovit in Krnov, and when it suffered a major flood last year we invested tens of millions of Czech crowns from the parent company to restore and modernise production. Not only did we save jobs in a vulnerable region, but we increased employee numbers and offered work to people who had lost it elsewhere.

Finally, given your experience, what would you like to say to the Czech defence industry for the years ahead?

Defence production is special in that many skills are acquired over many years – not only in manufacturing but also in management, development, trade and other areas. I am glad that demand for our products allows us to invest in people who will carry on the manufacturing tradition in Bojkovice and Krnov. My wish for the Czech defence industry is simple: keep your heads high. Our products have always been among the world's best, and I hope we will stay at the top in the years to come.

*Author: Miloš Soukup
Photo: ZEVETA archive*



Strategic Pillar of the Czech Defence Industry



Explosia a.s. is a key company of the Czech defence and security industry and a long-term partner of the Czech Army. As a state-owned joint-stock company, it is fully controlled by the Ministry of Industry and Trade of the Czech Republic. It is a stable and strategic partner in ensuring the defence capability of the Czech Republic and its NATO allies. Explosia, one of the major employers in the Pardubice region, currently employs approximately 660 people. Its product range covers a wide spectrum of products – from explosives and propellants to special pyrotechnic products and modular cartridges for modern artillery systems. Thanks to this diversity, it is able to flexibly respond to the needs of the armed forces, the mining industry and international partners.

History and Tradition

The company's roots date back to the early 20th century, when the first state-owned companies were established to produce propellants. During the period of the First Czechoslovak Republic, Czechoslovak explosives and ammunition became a benchmark for quality and reliability. The Second World War and the Cold War had a major impact on the production focus, yet the know-how and technological background were preserved. Explosia underwent a difficult transformation after 1989, but remained in the hands of the state as a strategically irreplaceable enterprise.

New Management – New Direction

The year 2025 brought significant personnel changes to the company. General Director Tomáš Rubáček took up his position in March and was gradually joined by Ondřej Havlík, for the Sales Department, Purchasing, Security Department, and FOSPOL, Roman Přihonský, Sales Director, Pavel Křivonožka, Finance Director, Robert Macek, Production Director and current Security Director Pavel Králíček and Investment Director Martin Chmelík. The last member of the management was additionally appointed on 1 September – the Director of the Research Institute of Industrial Chemistry Martin Schmidt, which underlined the emphasis on science and innovation development.

The current company Board of Directors comprises: Tomáš Rubáček – Chairman of

the Board of Directors, and members: Pavel Šenych, Robert Macek, Pavel Křivonožka and Ondřej Havlík.

The new management has clearly declared its ambition to expand the production capacity, strengthen the export capabilities and increase its focus on supporting the Czech Army and NATO partners. Another goal is to further advance the company in the field of development, research and identification of new opportunities in domestic and foreign markets.

Portfolio and Cooperation

Explosives and propellants from Explosia's product portfolio are used by the military, security forces and mining industry. Modular cartridges have become an important part of modern artillery and their production is considered a promising area with growing demand. The company also develops and delivers special products tailored to specific customers, confirming its ability to innovate and adapt.

Cooperation with the Czech Army, whose needs are a priority for Explosia, remains a priority focus. Thanks to its connection to NATO standards, the company also presents itself as a reliable supplier to alliance partners. The company actively collaborates on international projects, for example, on the French-developed 155 Caesar artillery system, and wants to become a partner in the development of other supplies for the Czech Armed

Forces – 120 mm combustible cartridge cases for Leopard systems or for 12.7 mm, 30 mm and 81 mm calibres.

An important part of the company's exposure includes participation in prestigious defence fairs. Explosia recently presented their products and innovations at the IDET trade fair in Brno and visited the international IDEF in Istanbul, where they met a wide range of professional and business partners.

Prospects

Explosia is entering a new era. The development of research, digitisation of production, cooperation with key international players and expansion of exports are key challenges that can turn this Czech business into an even more important player on the global market.





INTERVIEW WITH THE RECTOR-COMMANDER OF THE UNIVERSITY OF DEFENCE, BRIGADIER GENERAL JAN FARLÍK

Brigadier General Jan Farlík has been leading the University of Defence since May 2024. In this interview, he outlines not only his priorities for the coming years but also how the university is responding to the changing geopolitical situation. Under his leadership, the university is strengthening cooperation with NATO, the defence industry, and international partners, launching new study programs, and engaging in the development of quantum technologies and artificial intelligence. What are his visions for the institution's further development, and how does he assess the University of Defence's trajectory after more than 20 years of existence?

The editorial team of Review for the Defence and Security Industry has collaborated with the University of Defence since its founding, continuing the tradition of the three former military universities. Members of the representative editorial board supporting this relationship have included Karel Kotek, František Vojkovský, Rudolf Urban, Zuzana Kročová, and now Rector Jan Farlík. This interview is thus another continuation of this long-standing cooperation and an opportunity

to gain insight into the university's current visions and challenges.

You were appointed Rector-Commander of the University of Defence by the President of the Republic at the end of May 2024. How would you evaluate your first year in this position, and what goals have you set for yourself?

The first year in office has been very dynamic. The geopolitical situation, especially in the

East, significantly affects us, and the University of Defence has had to quickly adapt to the growing demands on the country's defence capabilities. We are responding to these challenges in both teaching and research. We are strengthening instruction and scientific activity to meet the current needs of the Ministry of Defence, our students, and the defence industry.

We have begun updating the university's strategic plan, a key document we create in



line with the Ministry of Education's requirements. This plan reflects modern approaches to both students and staff. I am particularly proud that we received the HR Award, thanks in part to the previous leadership, for which I am grateful. Our goal is to improve working and study conditions, for example through digitalization and efforts to reduce administrative burdens, though there is still work to be done.

We have also updated our infrastructure development plan through 2032. This reflects our ambition to develop the University of Defence as a modern higher education institution that can compete with other leading universities in Brno, such as Masaryk University, Brno University of Technology, and Mendel University. We maintain strong, intensive cooperation with these institutions and are also establishing contacts with other universities across the Czech Republic.

Among the notable achievements of the past year is the creation of a consortium for quantum computing. We collaborate with Czech Technical University, Masaryk University, Brno University of Technology, the Academy of Sciences, and other institutions to advance quantum technologies such as quan-

tum cryptography. This field will be crucial in the future, particularly when combined with artificial intelligence. A state without qualified specialists in this area will face significant disadvantages.

You mentioned cooperation with other universities. Is this limited to research, or does it take place on multiple levels?

The main focus is indeed on science and research. We create joint consortia and participate in national and international projects – not only with universities but also with state enterprises and companies within the Defence and Security Industry Association.

The topics are broad, ranging from unmanned systems to military healthcare, modeling, simulation, and the use of 3D printing on the battlefield. Recently, we have also intensified work on quantum technologies and artificial intelligence. We are pleased that Czech universities are eager to join these projects and that the success of our joint research initiatives continues to grow.

How would you describe the University of Defence's reputation nationally and inter-

nationally? How is research and development progressing, and where do you see gaps that need improvement? How would you assess the quality of current Czech military specialists?

I would say our reputation is gradually growing. We are very active within NATO's scientific and research institutions. We participate in alliance projects and collaborate with several foreign universities, for example in the Netherlands, Poland, and now with Germany's Bundeswehr. It is crucial that our academics can effectively communicate what the University of Defence is capable of, and they are increasingly succeeding in this.

Our experts engage in most so-called "captech" areas – technological fields NATO is currently focusing on. Although we are a small university, we are building a strong reputation within the alliance and increasing our professional visibility.

Regarding research and development, we operate across a broad spectrum – we have several faculties, institutes, and specialized centers covering areas from aviation to air defence and engineering technologies. In cooperation with the Army of the Czech Republic, our academics work on developing new weapons systems and command and control systems. They are also regularly involved as experts on committees, reviewing research projects and participating in expert panels. The University of Defence is thus highly active and respected in this area.

The greatest weakness, however, is capacity. Due to the wide range of requirements, we often have only a few experts addressing each problem, who are already working at the limit of their abilities. Many devote their free time, including weekends, to research. This is not sustainable long-term. Another challenge is that, as a state organizational unit under the Ministry of Defence, we are subject to stricter rules than public universities. For instance, if we develop a new technology, the state automatically owns it, but often cannot use it commercially or only very limitedly. Unlike public universities, we cannot directly benefit from research results, which limits us.

Additionally, if we receive project funding, we cannot distribute it to partners – such as



other universities or companies – in the standard way. What works elsewhere often cannot be implemented here due to legislation. In the past, this has meant that many promising projects were complicated or unrealized. On the other hand, our status as a state institution sometimes simplifies certain processes.

Do you think it will be possible to ease these limitations in the future? Are there ongoing discussions with the Ministry of Defence?

Yes, this discussion has been ongoing for some time. The Ministry of Defence is receptive, and analyses and proposals for possible solutions exist. However, it is not yet clear which model would be preferable. We are in close contact with both the State Secretary's office and the ministry leadership, discussing how to help the university become more efficient, modern, and in-demand as a research and educational partner.

Currently, there is a broad discussion on raising military salaries. From July, salaries for some positions are expected to increase. What impact will this have on the University of Defence? How would you assess the personnel situation?

We welcome the salary increases for professional soldiers – they address past disparities. For our academic staff who are also soldiers, this will be a significant help. I hope there will also be room to increase salaries for civilian staff, who certainly deserve it.

Regarding personnel, the University of Defence is in a very good position and has long maintained a high level of occupancy. Currently, we are around 96–97 %, which is excellent. Interest in serving at the university is high, and the university is seen as a good employer. Of course, there are still some gaps, and certain positions are not fully staffed, but compared to other units or Ministry of Defence departments, we perform very well. There is no reason for complaints; on the contrary, I see strong potential for the future.

What conditions currently apply for recruiting new students? Do you think higher financial incentives could increase interest in study and motivate existing army personnel to stay in service?

In admissions, we adapt to societal changes, including reducing physical fitness requirements – but only for entry into studies and enlistment as professional soldiers. From next year, we are introducing simplified cri-

teria for physical fitness. This does not mean lower standards during studies; we need our students to become fully capable professionals after three to five years, meeting modern army requirements, including excellent physical condition.

At the same time, we also take into account the needs of students with certain health limitations. We have a methodology allowing reduced requirements in specialized areas, such as cybersecurity or administrative programs, opening study opportunities to applicants who may not meet ideal health standards but can contribute in other areas.

We do not lower academic standards. In the past, for instance during the pandemic, we slightly relaxed requirements, but students lacking sufficient high school knowledge – especially in mathematics, physics, or electrical engineering – struggled in their first year. We maintain standards in these areas and provide mentoring and support programs to help students catch up. After the first year, most manage the study pace without significant difficulty.

Salary increases also positively impact motivation to serve. They help offset commuting or housing costs. For professional soldiers,



this improves overall financial conditions and removes negative disparities affecting net income. Academic staff who are also soldiers have low turnover. Civilian staff face more challenges, often compared to salaries in other sectors, such as education. Despite appreciating the work with military students and the army environment, their pay is sometimes lower than that of secondary or primary school teachers. This is an issue, but the July salary increase should positively impact professional soldiers and help retain quality personnel.

How do you assess the University of Defence's cooperation with the defence and security industry? How could it be deepened? How did the university present itself at the recent Brno fairs, and were useful contacts with Defence and security industry representatives established?

Cooperation with the defence and security industry is very important. The army expects primarily practical results that can be implemented quickly. Our main task is to establish and develop cooperation with state enterprises, such as LOM Praha, the Military Technical Institute, the Military Research Institute, and military repair enterprises. This cooperation is successful.

At the recent IDET fair, I personally held numerous meetings with directors of these companies and see great potential. We identify joint topics that can directly and quickly impact the capabilities of the Czech Army. For other companies, my colleagues usually develop the collaboration. In most cases, we have been cooperating for years. The fair was mainly an opportunity to update cooperation and agree on next steps.

Individual departments also maintain close cooperation with specific AOBP companies. For example, our Weapons and Ammunition Department collaborates with companies producing optical devices and other accessories for weapons systems. The Air Defence Department works closely with companies developing sensors or command and control systems. Overall, we have signed dozens of cooperation agreements, and this model has proven very effective.

At the Brno fairs, we had our own exhibition showcasing the University of Defence—from student training to technological capabilities. I would especially highlight the joint presentation with partners from the Communications and Information Systems sector, where we demonstrated applications in modern technologies, from drones to advanced information systems.

During your career, you led the Air Defence Department. How would you assess the Czech Army's equipment in this area today?

The situation is improving. The Czech Army is now being equipped with new SPYDER surface-to-air missile systems from Israeli company Rafael, which represents a significant advance. Previously, we had mainly RBS-70 and older Soviet systems with a range of about 23 km, targeting only one threat at a time. The new systems offer much greater flexibility and the ability to engage multiple targets simultaneously. With various missile types, such as Python and Derby and their variants, we can effectively respond to a wide range of aerial threats, from aircraft and helicopters to cruise missiles and larger drones. Four SPYDER batteries form a minimum foundation capable of fulfilling national and some allied tasks.

However, the security situation in Europe, especially given the war in Ukraine, shows that this reinforcement will not be sufficient in the future. Current systems cannot effectively counter ballistic missiles, which pose an increasing threat. To ensure comprehensive airspace protection, the Czech Republic will need systems capable of addressing this challenge.



Would Israeli systems be considered, or are other manufacturers also an option?

There are multiple possibilities. For example, the American Patriot system, which provides this capability, the French SAMP/T systems, or the Israeli solution with Arrow missiles. Everything depends on the conditions the army sets for the selection or acquisition process.

In the past, you have also evaluated the air forces of NATO member states. How does the Czech Republic perform in this regard?

Currently, the Czech Republic operates a fleet of JAS-39 Gripen aircraft, which I consider excellent machines. The country is also beginning to acquire capabilities in the form of F-35 aircraft, which will be a huge step forward. This requires building new infrastructure, but if managed well, we will have aircraft with truly top-tier capabilities. The current fleet meets standard requirements and will not be outperformed anywhere. I believe we are on

a comparable level with other NATO member states.

Has university education changed in any way due to the current geopolitical situation, with defence increasingly in focus? How would you describe cooperation with the Ministry of Defence and NATO?

Yes, teaching is changing very significantly—and quickly. Recently, we have introduced new specializations, such as military robotics and cybersecurity, and we are also responding to developments in the East. The Military Medical Faculty is preparing a new program for general military nurses, and we are also launching a dedicated study program for military paramedics. This will significantly enhance the capabilities of the Czech Army.

In Brno, we are responding in areas such as technology and management skills. For military pilot and air traffic controller education, we have moved from a master's to a bachelor's program in cooperation with the army,

allowing for faster deployment. Similarly, new study programs focused on quantum technologies and artificial intelligence are being prepared.

We are also negotiating with certain state enterprises to build infrastructure, including simulators, training devices, or virtual reality systems. We aim to offer students not just an attractive study experience but education that reflects the latest trends observed today.

Last year, the University of Defence celebrated its 20th anniversary. Could you briefly summarize the past two decades?

Looking back over twenty years, I would compare the university's development to that of a young person: a complicated birth, a happy childhood, a poor adolescence, and now entering ambitious adulthood.

The merger of the three original military universities into one institution was not easy. This was followed by a period of stabilization, but in 2008 came the economic crisis, and in 2012 even severe cuts. Many specialists had to be laid off, and the university lost valuable knowledge and expertise. Since 2018, however, we have seen significant improvement. We have not only stabilized personnel but, thanks to the support of the Ministry of Defence, also modernized technological infrastructure. Teaching and research are at a top level, and I believe that if we maintain this trend, the University of Defence will continue to be a significant institution, ready to meet growing demands in education, expertise, and research.

Is there anything else you would like to add?

Finally, I would like to highlight the growing involvement of our academic staff in the international environment, not only in Europe but also within broader NATO structures. Many states are now approaching defence issues with renewed urgency and emphasis on capability development to ensure their security. For this reason, I believe our university has a firm place in this space, and I look forward to further cooperation with partner institutions.

*Interview conducted by Adriana Jesenská
Photo: University of Defence archives*

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Rector of BUT, Assoc. Prof. Ladislav Janíček, Ph.D., MBA, LL.M.

author of the photo: Tomáš Nosil

CHALLENGES AND PRIORITIES IN TECHNICAL EDUCATION AND RESEARCH AT BRNO UNIVERSITY OF TECHNOLOGY

Interview with the Rector of BUT, Assoc. Prof. Ladislav Janíček, Ph.D., MBA, LL.M.

You were appointed Rector in February 2022. How would you evaluate your work in this position so far within your four-year term, and what goals have you set for yourself?

Together with the whole team, we assumed leadership of the university with respect and responsibility, yet also prepared and with a clear vision of where to focus our efforts. The first two years were demanding, especially in view of developments that few could have foreseen. We entered office during the aftermath of the Covid-19 pandemic. No sooner had it subsided than Europe was struck by the war in Ukraine, which required

universities, including ours, to adopt rapid and necessary measures. The geopolitical situation triggered an energy crisis, stemming from the need to manage economic and technological dependencies and to respond to sanctions. Inflation followed, and the economic impact affected higher education as well. At the same time, a technological crisis deepened, paralysing certain sectors as a result of disrupted trade balances and, above all, dependencies on supplies of technologies and resources from high-risk areas.

The world became divided, and the need to ensure technological self-sufficiency in critical areas became evident. We were also affected

by a tragic event that only recently would have seemed unimaginable – the shooting at our oldest university in Prague. This led to strengthened security measures across higher education institutions. Interwoven throughout this period was the theme of environmental sustainability as a response to climate change. Overall, it was an extraordinarily dynamic time, transforming our perception and priorities as well as those of society as a whole. Security in all respects, environmental sustainability and economic competitiveness gradually emerged as key themes. The European Union and its member states are now facing the challenge of enhancing economic productivity and achieving self-suffi-



An autonomous swarm of drones and robots for terrain exploration, which is the result of cooperation between BUT and UNOB, also caught the attention of the President of the Czech Republic at this year's IDET trade fair
author of the photo: Václav Koniček

ciency in critical technologies and resources. The guiding principle of EU and Czech strategic documents has become a knowledge- and innovation-based economy, which today represents the essential foundation for high added value. Accompanying this are ongoing digitalisation, the Industry 4.0 concept, and challenges in cybersecurity. Artificial intelligence is permeating all areas of life with growing intensity, transforming many established roles. It has found its place at universities too, challenging us to reflect on what higher education and teaching might look like in ten or twenty years, and how the role of the academic will evolve.

The turbulence of recent years has sharpened our awareness of priorities and of the role that a technical university must play in society. We are among the five largest universities in the country and the leading technical university with nationwide reach. We are acutely aware of the crucial importance of technology in today's world, as well as of the growing shortage of technically qualified professionals not only in the Czech Republic but across Europe. Yet without well-educated people, even rapidly developing technologies cannot succeed, and economic prosperity will remain elusive.

In line with these influences, we have concentrated on profiling our university in accordance with societal priorities and on strengthening our competitiveness in education and research both nationally and internationally. We focused on supporting and developing strategic areas in key technological sectors, as well as cross-cutting domains across our entire technological portfolio – especially environmental technologies and energy. We identified more than twenty specific technological fields that define our profile and in which we are capable of achieving international competitiveness, and we have concentrated on developing and promoting them. Semiconductors, electron microscopy, aerospace technologies, automotive engineering and e-mobility, biomedical engineering, energy, artificial intelligence, robotics and cybersecurity are just some of these. The geopolitical situation has also steered us towards strengthening and developing defence technologies.

We have accepted challenges that drive our pursuit of excellence, as the essential prerequisite for competitiveness in the academic environment. This lies particularly in the quality and internationalisation of education and re-

search. We have established closer ties with industry and placed greater emphasis on shaping mutually beneficial cooperation in both education and research. Since one of the greatest expectations of our industrial partners is the preparation of highly qualified graduates, we have worked on finding ways to enhance student motivation and interest in technical and natural sciences. We have embarked on reforming our study programmes and adapting them to the needs of industry and society, while also responding to the motivation and knowledge levels of applicants in exact subjects such as mathematics, physics and chemistry. We have involved our industrial partners in this process as well.

In research, we have focused on quality and applicability, and on knowledge transfer as one of the main indicators of effectiveness, alongside systematic support and motivation for entrepreneurship based on research results. Commercialisation and entrepreneurship through the establishment and growth of spin-off and start-up companies has become one of the key goals of our strategy.

We intend to continue along this path in the coming term, provided we retain the trust of

our academic community, which I greatly value. None of this would be possible without our people. Our academic and research staff, as well as those who support them in technical and administrative positions, are the most important source of our success. I am proud of their expertise, I value them highly and I strive to support them in every way. I also take great joy in our students. Long gone are the days when their role was only to "attend classes" – they now actively engage in real projects and achieve excellent results in a wide range of creative activities already during their bachelor's or master's studies – also thanks to technical opportunities we could hardly have dreamt of in my student days. It is my pleasure to support these creative activities as well as the wider development of our students. And, by the way, doctoral students contribute more than one third of our university's total research output.

How would you describe the international reputation of BUT?

Internationalisation is today an essential prerequisite for the competitiveness of universities. That is why we devote such significant attention to it. We have substantially expanded our international engagement, not only through the mobility of our academics, researchers and students, but above all by strengthening our role in prestigious international structures. We have consolidated our membership in the European University Association, in the distinguished network of European technical and research universities CESAER, and we have actively contributed to the development of one of the European University alliances – EULiST, of which we are a member, and which has now gained the status of a recognised European University. We have already held the presidency of this alliance for the second year.

This year we also assumed the presidency of the Czech Association of Research Universities, which brings together seven leading Czech universities and whose strategy is founded on excellence in research. These four years of concentrated effort have been reflected in our international standing – in the most widely monitored global ranking, QS, we advanced from the 701st–750th position four years ago to the 575th this year, despite the growing number of evaluated institutions. We also moved up by 200 places

in the international THE ranking, for example. And we received extraordinary recognition: we were awarded the hosting of this year's annual meeting of the CESAER network, which in October will bring to our university top representatives of more than 50 distinguished European technical and research universities. For next year we have secured the hosting of another prestigious pan-European event – the EUA Funding Forum of the European University Association, which will bring to Brno the most prominent figures in Europe engaged in the funding of higher education. Incidentally, this is an area that has accompanied my professional career at universities for almost 25 years. I believe that all these achievements are evidence of the growing respect for our technical university abroad as well.

How would you describe research and development at the university, and where do you see gaps that need improvement?

I believe I can rightfully say that we are a research university. Our total research income (around CZK 2 billion) is equal to, if not slightly exceeding, our total income from education. Ten percent of this comes from contract research for industry. We also rank among the most successful Czech universities in grant-based research, including in international – especially European – funding schemes. Our technical orientation naturally predisposes us to applied research, yet basic research slightly predominates here. As I have mentioned, we are members of, and since this year also hold the presidency of, the Czech Association of Research Universities. Within this framework, we adhere to values and apply standards of evaluation that are stricter than usual, because we consider it important to emphasise competitiveness, quality, and effectiveness in research. In recent years, we have undergone two international evaluations, and we have also become members of the international CoARA coalition, which aims to reform research assessment with a focus on evaluating its practical contribution.

A key measure of the effectiveness of research is the transferability and applicability of its results in practice. This is why we have fundamentally transformed our approach to knowledge transfer, making it one of the university's strategic priorities, and have man-

aged to increase its share tenfold over the past four years.

What remains a major challenge for us, and where we are seeking solutions, is to increase our participation in large industrial research projects in cooperation with our strategic industrial partners. Certain limitations arise from our status as a public institution, which in a competitive business environment creates some hesitancy, since the commercial sphere relies heavily on safeguarding trade secrets. The policy of Open Science, which in Europe applies to publicly funded research – the predominant form at our university – can sometimes be an obstacle for industrial partners. However, we are already able to address this, albeit at the expense of not being able to have such results assessed freely under the national methodology, which in turn determines our baseline, so-called normative, state funding for research. At the same time, we are striving to strengthen our competitiveness in obtaining prestigious European research grants, particularly ERC and others. It almost goes without saying that, as everywhere, excessive administrative burden remains a traditional barrier to the effectiveness of research, consuming both energy and focus that could otherwise be devoted to productive work and results.

A significant achievement this year in terms of industrial cooperation is the successful acquisition of a project to establish the National Competence Centre for Semiconductors. In this initiative, our university collaborates with our partner CTU in Prague, the National Semiconductor Cluster, the companies onsemi and Codosip, as well as the innovation agency JIC in Brno. The Centre is one of 27 such entities in the EU, with the aim of supporting the development of the semiconductor industry in the Czech Republic and thus contributing to the EU's path towards self-sufficiency and independence in the development and production of chips and semiconductor components for various industrial sectors. In connection with this, we have launched a bachelor's and a follow-up master's programme focused on semiconductor technologies and chip design.

Beyond semiconductors, we are also achieving significant results in other strategic fields such as electron microscopy, aerospace technologies, automotive engineering and e-mo-



Next-generation ballistic protection: MobiSHIELD from the Faculty of Chemistry, BUT withstands penetrating bullets and is easy to install
author of the photo: Václav Koniček

bility, artificial intelligence and cybersecurity, environmental technologies, batteries and energy storage, as well as other areas where we are building strategic partnerships with industry. Energy, particularly nuclear energy, is of major importance to us. A new study programme combining four of our faculties, close cooperation with the Dukovany Nuclear Power Plant as it prepares for expansion, and our long-standing partnership with South Korean partners who have succeeded in the tender, represent great assets. Last but not least, we are also engaged in research in defence technologies, which, due to the geopolitical situation, have stepped out from under the gradually retreating label of "dual-use technologies".

What are the current conditions for student recruitment at BUT, specifically at these three faculties – the Faculty of Mechanical Engineering (FME), the Faculty of Electrical Engineering and Communication (FEEC), and the Faculty of Information Technology (FIT)?

In general, we perceive a shortage of technically qualified professionals not only in the Czech Republic but across Europe. Despite the ever more pressing demand from our industrial partners, studying technology is not the first choice for many applicants, primarily because of the difficulty of STEM subjects such as mathematics, physics, and chemistry. While in the field of informatics – and at our university particularly at FIT – we have observed growing interest and even a signif-

icant excess of applicants compared to available places, at FEEC we see only a modest increase, and at FME we have been experiencing a decline for several years. Although our FME remains, in terms of student numbers and overall budget, the largest faculty of mechanical engineering in the Czech Republic, so far we have not been able to reverse the downward trend – not due to the quality of studies, but to their demanding nature. A major challenge, to which we devote much attention, is student failure after the first year. Therefore, in addition to expanding forms of tutoring, we are working on reforming our study programmes. This is not about lowering standards, but rather about reorganising and distributing the teaching of the most demanding subjects across a broader time frame during the course of study, and placing greater emphasis on calculus, i.e. applied mathematics, rather than pure theory. Nevertheless, mathematics and physics are indispensable for any engineer.

In this context, our initiative to support STEM education in the Czech Republic, in cooperation with industry and its representatives, industrial partners, other technical and natural science universities, and the Ministry of Education, is understandable. We have undertaken this initiative at the national level. Together with the Ministry of Education and the Office of the Government, we are currently working on a concept of contracted funding, including for selected technological qualifications, with the aim of increasing the number of students, and above all graduates,

in these areas. It should be added that in the shadow of technology, the shortage of graduates in construction is often overlooked. An increasingly important challenge is also the linking of technology with the humanities. And this is not only in medicine but also in the social sciences, where it is necessary to address the social and psychological challenges associated with the penetration of technology and technical development into our lives.

This issue is published on the occasion of the NATO Days and the Czech Air Force Days held in Ostrava. Among your current teaching is the course *Economics and Management of Air Transport* at the Institute of Aerospace Engineering of the Faculty of Mechanical Engineering, where you have been teaching since 1990. How would you evaluate student interest in this field over your nearly 30 years of teaching, and the success of graduates?

Aerospace engineering remains my natural and highly prestigious area of expertise. Despite holding managerial positions that require a necessary orientation towards economics, I have always maintained my professional affiliation with aircraft in my academic work. What I can say is that the study of aerospace engineering – whether in aircraft design or in air transport – has always been among the elite, but also among the most demanding fields of study, especially aircraft design. Applicants' decisions are also influenced by their interest in aircraft, which undoubtedly represent one of the technological pinnacles of human ingenuity, making the discipline highly attractive. For this reason, interest in studying both fields – design and transport – at the Institute of Aerospace Engineering has generally remained stable, although slight year-on-year fluctuations are natural. In addition to these specialisations, we also offer the bachelor's programme *Commercial Pilot*, which includes pilot training. However, besides medical requirements, this programme is also financially demanding, which can pose limitations for some applicants.

The Institute of Aerospace Engineering is, together with the Faculty of Electrical Engineering and Communication, one of only two university centres for the study of space engineering and spacecraft design in the Czech

Republic. There was, however, a period when the consolidation of the Czech aerospace industry caused a certain degree of hesitation among applicants for these studies. Today, the situation is entirely the opposite, and demand from industry and transport for graduates of these specialisations is extremely high, thanks to their universal employability. Nevertheless, the number of students and graduates is relatively low, which is linked to both interest and the aptitude of applicants for more demanding STEM fields. Sadly, although many applicants do not lack motivation, they often fall victim to demotivation and the quality of STEM education at lower levels of study, particularly in mathematics, physics, and chemistry.

As for the success of those who complete their studies, this is practically one hundred percent. Moreover, the qualification is highly transferable to other professional areas where exact thinking is required. But this is, after all, the case for most technical studies at BUT.

Has teaching at the university changed in any way in light of the current geopolitical situation, in which defence is increasingly being discussed? How would you describe the university's cooperation with the Ministry of Defence, the EU, or NATO, if such cooperation exists?

Technology has the advantage of being transferable, and very few technologies lack dual use. As I have already mentioned, while defence technologies used to be referred to as “dual-use technologies”, today they are spoken of quite openly as defence technologies, developed directly for military applications. Personally, I have a close connection to this field, as during my first studies I became acquainted with military applications at the Air Force Academy in Košice. The current geopolitical situation undoubtedly brings an urgent need to ensure the defence capability of our country and to meet allied commitments. Among other things, this requires equipping the armed forces with modern technologies that provide them with both technical and tactical superiority and strategic advantage.

At the university, we are engaged in defence technologies particularly in research and development, including doctoral programmes. We traditionally obtain and carry out security research projects funded by the Ministry of

the Interior. We also work very closely and over the long term with the University of Defence, which has for many years been our natural partner, adding a military application dimension to our technological solutions. With the Ministry of Defence, we have concluded a memorandum on technological cooperation. More recently, we have also joined a memorandum on cooperation in quantum technologies. Last year, for the General Staff of the Czech Armed Forces, we hosted at our university a meeting of Czech universities interested in collaboration in defence research and development, at which representatives of the General Staff and the Ministry of Defence presented their technological needs, while universities then presented related results and products. We ourselves provided the Ministry of Defence with a comprehensive presentation of our capabilities and products. In addition, together with the Ministry of Defence and the Regional Military Command, we have signed a memorandum on cooperation and on creating conditions for the recruitment and participation of our students in the active reserves of the Czech Armed Forces.

How do you evaluate the university's cooperation with the defence and security industry (DSI), and how could it be further deepened, if this is of interest to you?

We have recently consolidated our offer for possible technological cooperation with the defence sector into a comprehensive package. We have our representative in the Defence Industry Association, with which we cooperate. At the university we have created the necessary framework for developing this cooperation in line with the needs specified by the Ministry of Defence and the General Staff of the Czech Armed Forces. Our goal is for the university to become a long-term strategic partner for the defence sector in research, development and innovation, and to deliver cutting-edge technological solutions to its partners.

How did you present yourselves at the Brno trade fairs held recently, and were you able to establish any useful contacts with representatives of the Czech DSI?

Our university has been regularly presenting itself at Brno trade fairs such as IDET for many years. This year we received an honourable

mention for an autonomous system of cooperating drones and robots for terrain reconnaissance controlled by artificial intelligence. This system was developed primarily for the needs of the Czech Armed Forces or the Integrated Rescue System within a security research project funded by the Ministry of the Interior, by our experts from the Faculty of Electrical Engineering and Communication and the University of Defence.

Among other exhibits presented by BUT at this year's IDET fair were, for example, MoBiSHIELD ballistic walls. Research and development of ballistic systems and materials has in fact been a long-term focus at BUT. Altogether, nine advanced technologies from our university were showcased at IDET this year. Examples include the APALER device for protecting pilots from dazzling by low-energy lasers, or an experimental platform for the rapid detection of distant objects such as drones. Composite elements of multi-layer ballistic protection with enhanced resistance, combining the properties of metallic and non-metallic materials, were displayed. We also presented advanced technology for increasing the reliability and lifetime of batteries for use in space or in the defence industry, as well as a specific plasma source for satellite propulsion in low Earth orbit (around 200 km).

Other exhibits included an X-ray computed tomography laboratory for CT expertise, enabling inspection of the internal structures of objects of various sizes and materials and their non-destructive analysis – for example, to check for leaks or defects – and a spectrometer for contactless elemental analysis of samples directly in the field, useful for chemical reconnaissance of polluted areas and for detecting environmental contamination by toxic substances. In the previous edition of IDET we presented, for instance, a cybersecurity training system for those defending against hacker attacks on information and control systems, and for repairing the damage and breaches caused.

Participation in trade fairs of this type is important for us not only in terms of showcasing our results and technologies, but also as an opportunity to meet key representatives of the defence and security industry, and to establish or develop cooperation.

Thank you for the interview. Šárka Cook



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WE HAVEN'T REACHED WORST POINT YET, SAYS ANTON FIRIC

FROM BUT, Joseph Fourier Prize awardee

This year's third-place winner of the Joseph Fourier Prize is Anton Firc, a PhD student at Faculty of Information Technology, Brno University of Technology. His research focuses on the security implications of voice deepfakes. It's an issue that concerns most of us—simply put, anyone who uses a computer or mobile phone connected to the internet. The reason is that today, theoretically, anyone with basic technical equipment—something they could even have at home—can create a synthetic recording that is practically indistinguishable from a real human voice to the average person. Reliable deepfake detection is a major challenge—and also a key focus of Anton Firc's research. What does he see as the biggest "nut to crack" in his work, and what motivates him? We asked him that, too.

How did you get into this research topic, and what inspired your interest in it?

It all started basically by chance. During my master's studies, I was thinking about what thesis topic to choose. I knew I wanted to work in cybersecurity, and I had identified someone who I thought could be a good supervisor, both professionally and personally. Kamil Malinka offered me several topics I could pursue, and among them was deepfakes. I looked up more detailed information—and the potential of a technology that, figuratively speaking, can create another person, really intrigued me. You could say I found my place in the topic—it started to really interest me. Back then, around 2020, it was an unexplored field. Whatever we did was, in a way, new. Transitioning to a PhD was then

just a natural step. I'm still extremely interested in the topic today, and let's face it—there's a certain societal "hype" around it, a demand from the public.

Let's go back to the beginning of your work with voice deepfakes: Was it already a hot topic that resonated in society back then?

No. Back then, we were, simply put, ahead of the curve. When we started sharing our research with other parties who might be interested—police, banks, etc.—everyone responded by saying it was interesting, but not a current concern or a real problem. But we knew that would change. And today, security agencies are indeed reaching out to us more frequently for lectures, tools, and similar things.

How long do you think this will remain a pressing societal issue?

Unfortunately, we haven't yet reached the worst point. That will come with automation and large-scale attacks, where automated systems will, for example, call seniors en masse and pretend to be grandchildren in distress. We're not there yet. Paradoxically, things will have to get worse before major tech players respond in a more substantial way. And then, of course, another type of risk will emerge—one that will keep us security folks on our toes.

The research problem and the resulting technical solutions are one thing, but then we also have the users themselves and their behavior. Is the human factor the

biggest challenge when it comes to applying your research findings?

It's definitely an obstacle, but we don't see it as an extreme problem. This aspect has been known for a long time, and anyone developing "defensive methods" goes into it knowing that users often aren't motivated to behave securely. So it's about finding ways to minimize the chances of incorrect user decisions. Educating users definitely makes sense, but solutions also have to take into account that people won't always do the right thing. One factor is how clearly detection tools communicate their findings—how to inform users about a deepfake detection result and the appropriate follow-up action in a way that's understandable and helps them make a reasonable decision. We also have to remember that even the technology itself can fail.

You won third place in this year's edition of the Joseph Fourier Prize, which I'd like to congratulate you on. How do you perceive this success? Are awards an important motivation for a researcher?

Going after awards wasn't and isn't a specific motivation for me. This time too, we just decided to give it a try—it wasn't something planned. I'm very grateful for the award, and I'm thrilled about it. I value it as proof of success on a national level, as recognition of the quality of my scientific work. There's been a lot of buzz around our research lately—people are requesting lectures, and the public is interested in the topic. And that brings time demands; even a half-hour talk in another region of the country means a full-day time investment. If it didn't make sense to us socially, we wouldn't do it. Personally, I'm currently at the stage of finishing my PhD, and knowing that we're addressing a problem that affects a large portion of the public is a huge motivation for me to continue this work. And another motivation, of course, is the way our research team operates.

The Joseph Fourier Prize is a prestigious scientific competition that annually rewards doctoral students for their research in the field of computer science and informatics. It is organized by the French Embassy in Prague in cooperation with the company Eviden.



Anton Firc with his trainer Kamil Malinka



The author of the text is Jan Dvořák from the Faculty of Information Technologies, BUT.

Photo: archive AF, Eva Kořínková, Václav Koníček

THE MILITARY RESEARCH INSTITUTE AT THE IDET 2025 FAIR



The Military Research Institute presented three key areas at IDET 2025 – chemical, radiological and biological protection, electromagnetic warfare and camouflage, and material engineering. Now more than ever, it has a lot to offer, whether it is the detection of hazardous substances, sophisticated materials and armour, or means of electronic warfare. Delegations from France, Poland, India and Ukraine expressed interest in the exhibits.



Vojenský výzkumný ústav, s. p.

Everything for safe transport of chemical warfare agents

The division of chemical, radiological and biological protection offers comprehensive protection for military and civilian population against weapons of mass destruction, i.e. against chemical, biological warfare agents and radioactive substances. *"The main mission is research and development in the above stated areas. We deal with the issues of modern methods of detection, protection and decontamination, based on our knowledge we offer services in the field of testing and certification of various devices and equipment. Our main customer is the Army of the Czech Republic, but we also have a number of customers from abroad, including world-famous manufacturers of detection equipment, protective means and decontamination equipment. In addition to testing, we are also engaged in the development and supply of equipment (technology) related to the protection against weapons of mass destruction,"* explains the head of the department Jiří Kadlčák. In the past, the Institute supplied the Army with, for example, reconnaissance vehicles for conducting automated radiation, chemical and biological reconnaissance, and is currently in the process of supplying decontamination vehicles as well as sampling or analysis equipment for chemical warfare agents and radiation. *"We are showing two of our products at the exhibition, one is a sampling kit for radiation, chemical and biological substances, and the other is a quite unique transport kit enabling safe storage and qualified transport of samples of these substances to stationary or mobile laboratories for subsequent analysis,"* added the head of the department. There is quite a lot of interest in these products, especially from specialists dealing with this issue.

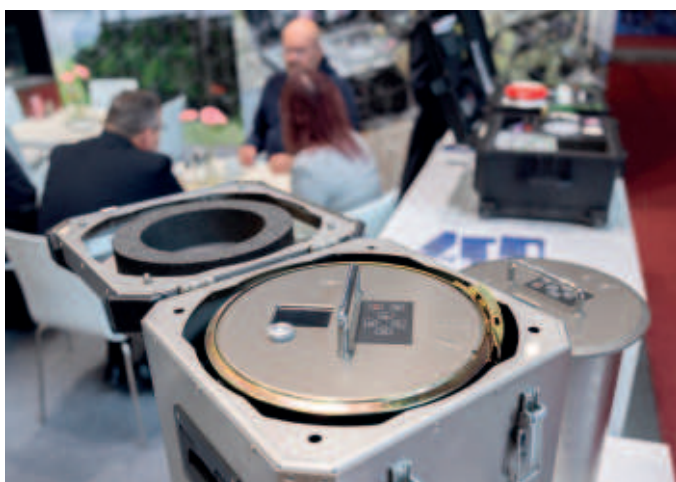
Materials that protect against explosions and firing

The second division of the Institute was material engineering. The head of the department, Jan Křestán, told us about its main focus: *"On behalf of our department, we presented primarily the ability to test and certify combat vehicles being introduced into the Army of the Czech Republic. Whether it's ballistic testing or testing of active protection against explosively formed projectiles. Another part of our division deals with research and development in the field of material engineering. These are armour protection or special composite panels. We are presenting here a ceramic panel consisting of a hard ceramic layer, ballistic laminates and then the basic armour, which is actually the body of the vehicle. We are demonstrating our ability to not only test but also design armouring."*

Means for electromagnetic warfare and perfect camouflage

The third division is the department of electromagnetic warfare and camouflage. Its task is to develop detection or jamming and other electronic means (devices) for electronic warfare and related matters mainly for the Army of the Czech Republic. Further, the department develops camouflage patterns to adapt to changes in the environment or changes in tactics and use of these means. At this year's IDET they presented the new UNIRADIO, offered to the Army of the Czech Republic. It is a combined radio receiver in the 20 MHz to 6 GHz range that offers fast and very detailed scanning of the radio band with visual display and many ways of distributing and detecting the acquired signals.

Author and photo: WVÚ, s. p.





INNOVATION AT THE MILITARY TECHNICAL INSTITUTE FOR GREATER SECURITY OF THE CZECH REPUBLIC

The Military Technical Institute is a state-owned enterprise specializes in research, development, and testing of technologies for the defence and security sector. Its core activities include the development, modernization, testing, and certification of military equipment, weaponry, special electronics, and other systems for the Czech Armed Forces and other security agencies. The Military Technical Institute also carries out projects for both domestic and foreign partners. Within the European Union, it ranks among the largest centers focused on defence and security research, development, and innovation. We spoke with the Institute's Director, Jiří Kašpárek.

Mr. Director, what makes The Military Technical Institute unique?

I think the answer is quite clear. Our state enterprise actively participates in research and development of new defence and security technologies responding to current security challenges. Over the years, the Institute has proven its ability to adapt to the dynamically changing environment of the defence industry, shaped by the conflict in Ukraine. Despite complex supplier-customer relationships, it has continued fulfil-

ling its strategic projects in line with contractual deadlines, thereby confirming its high professional and technical standards both in international collaborations and in technical projects for its founding ministry and external partners.

Can you explain how the synergy of your three divisions works in practice and how you intend to strengthen it further?

This is one of the key issues. The Institute must function as a single entity, not as iso-

lated units. Each division plays an irreplaceable role, bringing in specific technical expertise and know-how that complement each other and enable us to deliver comprehensive, high-quality solutions for the defence sector. In practice, this means close interdisciplinary cooperation from research tasks through development and testing to the implementation of results in the Czech Armed Forces' equipment. A typical example is systems integration, where each division contributes its specialized expertise to the overall solution.



Since 2024, we have emphasized effective internal and external communication and a unified approach both in project management and in public presentation. The aim is for The Military Technical Institute to consistently present itself as a strong, interconnected brand, not as three separate entities as in the past.

Your activities are broad and unique. Which projects do you consider a priority?

Among the most important projects is the SHORAD air defence system, which The Military Technical Institute is developing with foreign partners. Another is the development of a new vehicle for artillery units, the LOV-REKO. Other key projects include the MADR radar and



fire control systems, various workshop vehicles in multiple configurations, and medical modules. That said, we devote due attention to all projects, since each contributes to strengthening the capabilities of the Czech Armed Forces and thereby to the defence and security of the Czech Republic.

Can you introduce your new 3D facility and its importance?

The Military Technical Institute closely monitors constantly evolving technologies and seeks to maximize their use in making our development activities more efficient. One such technology is 3D printing and scanning of complex products. The Military Technical Institute therefore established a state-of-the-art 3D facility dedicated to additive manufacturing and 3D scanning.

This facility combines professional-grade technologies with a flexible approach to contracts, enabling the execution of both simple concepts and technically demanding projects. Here, we can quickly and cost-effectively create prototypes that significantly reduce costs and risks associated with final product development. The ability to verify shape, functionality, and ergonomics before series production saves both time and materials, accelerating the entire development cycle.

The workshop offers comprehensive 3D printing capabilities ideal for structurally complex parts with high mechanical demands – for example, design models, marketing or gift items. It also houses an advanced FreeScan Combo Series 3D scanner capable of detailed, high-precision, contactless scanning. This facility provides reverse engineering services, dimensional accuracy checks, archiving of complex parts, and conversion of physical objects into CAD models.

As you mentioned, innovation is one of your priorities. How do innovation processes work at The Military Technical Institute?

In 2024, The Military Technical Institute implemented a number of significant projects aimed at modernizing and innovating military equipment, and we are continuing this trend. Key activities include the development and modernization of mobile logistics systems for deployment in the field, particularly containerized systems and modular mobile workplaces for operational support. Here, workshop and logistics vehicles as well as specialized medical containers play a crucial role.

I would also mention the development and production of workshop containers for field servicing and maintenance of military equip-

ment, field kitchens for catering to troops in combat or crisis situations, and field hospitals providing full-scale medical support for Czech Armed Forces operations. Another major focus is the integration of modern technologies and the digitalization of military systems to streamline operations and enhance combat effectiveness.

Collaboration is an essential part of innovation. Do you cooperate with universities or other research institutions?

The Military Technical Institute has long cooperated with leading universities such as the Czech Technical University in Prague, Brno University of Technology, and the University of Defence in Brno. This cooperation covers strategic defence and security research and development as well as education of specialized personnel. We involve students and graduates in real projects, thereby supporting generational renewal and knowledge transfer. Sharing technological capacities contributes to strengthening innovation potential and enhancing the capabilities of the Czech Armed Forces.

Can you share your economic goals for this year?

We entered this year with an ambitious revenue plan of CZK 1.7 billion. By mid-year, it is clear that our optimism was justified and that final turnover will likely exceed projections.

How much do you plan to invest this year?

This year, we are investing tens of millions of crowns into developing the Institute and its capabilities. At the same time, we are carrying out our own development projects aligned with the Ministry of Defence's requirements to build the Armed Forces' capabilities, with nearly CZK 10 million allocated for this purpose.

And what about cooperation with international partners within NATO or the EU?

We are indeed cooperating on selected projects with NATO and EU partners, which I would describe as a joint path forward. Cooperation with NATO and the EU takes place not only in cases where a subcontractor provides something unique or a customer specifically requires a component that only one supplier can produce or deliver. For



example, we are currently seeking involvement in the future European Main Battle Tank (MBT) project. This project is supported by the European Commission, has received funding from the European Defence Fund, and involves many European countries.

There is much talk about the shortage of skilled workers. Does your company have enough experts to cover demanding development programs?

You are right. Our work is not easy – the demands for quality, deadlines, and adaptability are very high. Qualifications in this sector are essential. That is why I greatly appreciate the daily commitment and responsible approach of our employees. Thanks to them, the Institute stands on solid ground. As an employer, we strive to create an environment where work is meaningful. We support professional growth and are improving internal communication and working conditions – wages have been increased and some benefits adjusted. In recent years, we have also set clear plans for raising employee qualifications in line with the Institute's specialization.

Regarding the new generation of engineers and specialists, we actively cooperate with various educational institutions and universities in the Czech Republic, as I have already mentioned. We are working to attract young

experts primarily by building a strong reputation as an employer. Of course, we will continue to focus on employee satisfaction so that The Military Technical Institute remains a sought-after and respected employer, including among young professionals.

Interview by Miloš Soukup

Photo: The Military Technical Institute, a state-owned enterprise



CONNECTRONICS s. r. o.: CZECH PRECISION IN DEFENCE & AEROSPACE ELECTRONICS

Located in Kladno, Connectronics is the Czech entity of Connect Group, one of Europe's top 20 electronics manufacturing service (EMS) providers. With 40 years of experience and international certifications including AS 9100D, the group supports mission-critical applications across defence, aerospace and other high-reliability sectors.

In line with Czechia's growing role in European defence initiatives, Connectronics is scaling up its local operations. The company has intensified its focus on avionics and defence, investing in advanced production and testing infrastructure in its Czech facility. A dedicated production capacity has been reserved to support defence-related projects, offering services such as high-complexity cable harnesses, rugged electronics, and small-batch, high-value manufacturing.

Applications range from avionics and aerospace instrumentation to tactical and secure communication systems, surveillance and

detection modules, and electronics for rugged displays, night vision, radar sub-modules, and drone sensor platforms. The company also manufactures control units for missile systems, optical instrument electronics, fiber optic interconnects, and rugged power and interface modules.

Connectronics brings to Czechia the expertise gained from Connect Group's involvement in major European aerospace programmes — including the Ariane 6 space launcher, developed by the European Space Agency. This know-how is now applied locally to deliver tailored, high-performance solutions made in Czechia. Clients benefit from full lifecycle support, secure data environments and compliance with the most stringent traceability and quality standards.

With strong local capabilities and the backing of a global network, Connectronics s. r. o. is reinforcing Czechia's industrial contribution to Europe's defence and aerospace future —

delivering electronic systems engineered and built in the heart of Central Europe.



www.connectgroup.com

TELINK OFFERS SYSTEMS FOR CRITICAL INFRASTRUCTURE PROTECTION

Perimeter protection is a standard component of security measures in larger enterprises and critical infrastructure organizations. However, what may vary are the requirements for its resilience and quality, as well as for optimizing the number of personnel involved in physical security.

A new challenge is drone protection, as well as the use of drones for monitoring and securing large premises. These challenges bring about new technologies that must meet high standards. Such technologies must be able to respond to constant developments while also being compatible and integrable with existing security systems.

Recently, TELINK deployed an effective drone solution for perimeter protection and efficient logistics at the Hyundai car factory in Nošovice. TELINK has also been a long-standing partner in the protection of critical infrastructure facilities, such as nuclear power

plants. For critical infrastructure facilities, TELINK offers Czech-developed software for drone and docking station operations. Upon customer request, the system can operate without an internet connection.

TELINK is also a key partner of the Danish company **MyDefence** and the integration software manufacturer **Securiton**. Both companies focus on effective defense against unmanned threats. One of the most recent presentations took place at the international defense and security technology fair **IDET 2025**, held in Brno.

The Danish technology company **MyDefence** is among the leaders in the counter-drone defense (C-UAS) sector. Founded with roots in military research, it has grown into a global player with more than 4,500 deployed systems.

Their drone detection and jamming solutions — from wearable units to sophisticated

perimeter and vehicle-mounted systems — are used by modern militaries, security forces, and critical infrastructure.

TELINK supplies drones and counter-drone systems to state enterprises, industrial companies, rescue services, and government agencies. In addition to sales, TELINK is involved in distribution, comprehensive support, and training. In Prague, TELINK operates an official DJI retail store and a training center.



POLICE DIVERS

IN THE CZECH REPUBLIC POLICE

In the previous issue of our Review, we spoke with the first deputy of the police president, major general Tomáš Lerch, about operational command. Among the areas he is responsible for also special services – including police divers. Today, we will talk about their work and tasks. This time, colonel Petr Koutný, director of the Public order police directorate, agreed to the interview.

Dear Mr. colonel, the "Department of special diving activities and training" is a part of the service you manage. What are its main tasks, and what is the primary work of police divers?

The main task of the Department of special diving activities and training (D.S.D.A.T.), along with regional diving instructors, is to provide

comprehensive methodology and training in the field of police diving. We also focus on working at heights and above free depth, training for small boat leaders, and rescue divers. Of course, our divers also carry out standard diving operations – especially dives deeper than 40 meters or rescue work when needed.

What does the training of police divers involve? What must candidates be able to do? Are divers deployed in environmental or emergency situations like floods?

Training begins at the home unit with basic diving instruction and familiarization with diving equipment. Then, candidates attend our P1 course, where they improve their skills and learn the basics of police diving. In following years, they take part in the P2 course, ice diving, nitrox diving, underwater crime scene investigation, and eventually the P3 course – the highest diver classification, allowing them to lead diving operations.

Divers of our department also achieve the P4 level, which includes deep diving, cave diving, and diving in HAZMAT environments (highly chemically or biologically contaminated conditions).

Deployment depends on the needs of other police units. Simply put I can say, divers can be deployed even when there's no water – for example, in poorly accessible locations like shafts, mines, or tanks where breathing equipment is required.



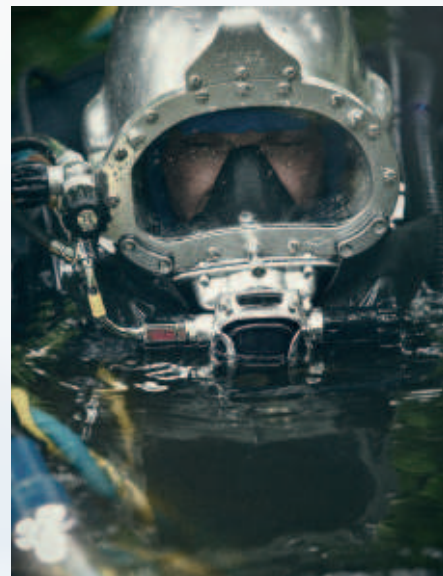
Training in HAZMAT conditions – waste water treatment Brno



col. Petr Koutný with head of Department of special diving activities and training col. Petr Míček (left)



Training under the ice – quarry Velká Amerika



Diver in Kirby Morgan 97 set

Modernization of the police surely affects diving equipment as well. What is the standard diving gear, how often is it replaced, and do divers have specific roles or specializations?

Our diving equipment meets international standards for regular use, but we also use special tools to support our work, such as full-face masks, underwater communication systems, sonars, metal detectors, etc.

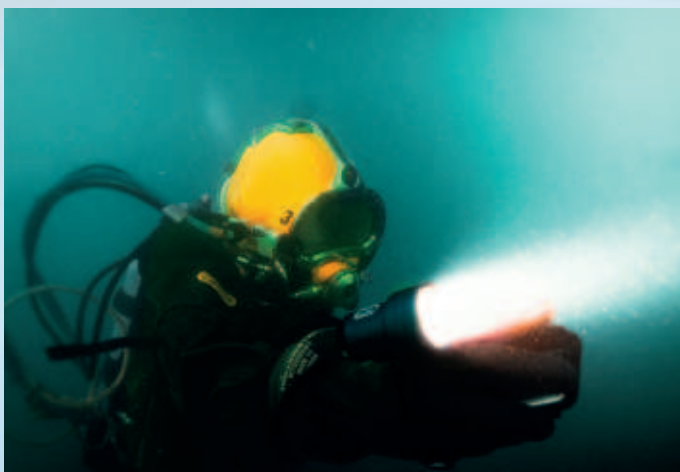
Divers' roles are based on their qualification level, as mentioned earlier.

Do you use modern technologies like underwater drones, sonar, robotic systems, or thermal cameras?

Yes, like other police units, we use modern technology. We frequently use the Kongsberg MS 1171 sonar head or the Humminbird



Diver with full face mask and infrared device used for seeing in invisible water



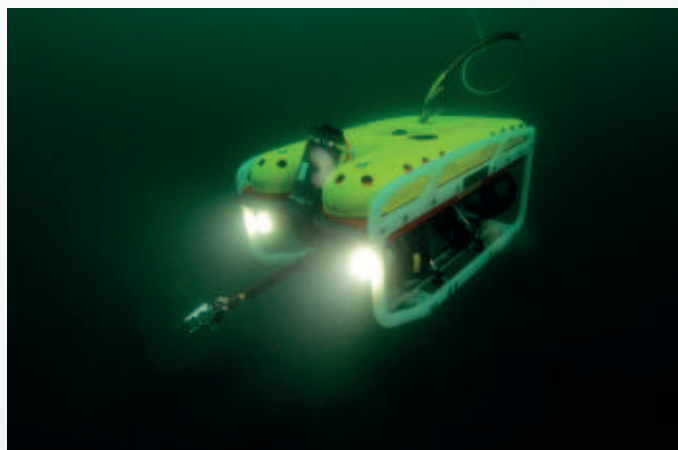
Diver with Kirby Morgan helmet – river Una, Bosnia and Herzegovina



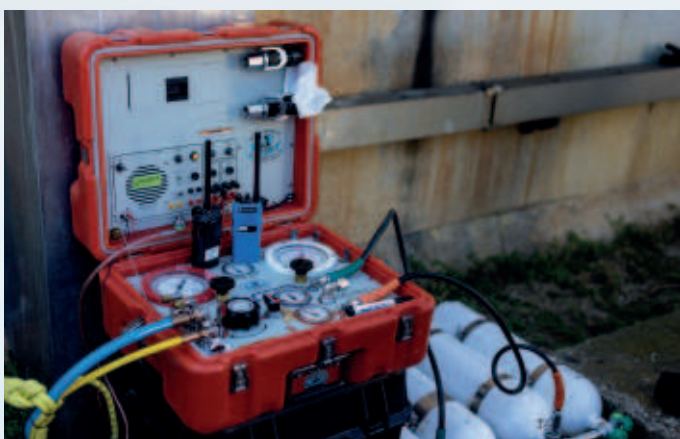
Diver with underwater drone ROV SEA FALCON



Surface station of the underwater drone ROV SEA FALCON



Underwater drone ROV SEA FALCON



Suitcase for distribution of breathing medium KMACS – Kirby Morgan Air control system, part of Kirby Morgan helmet set



Diver with closed circuit (rebreather Liberty)



Mobile pressure chamber from HAUX company

sonar, and the Seaeve Falcon underwater drone. In forensic diving, where documenting the crime scene is crucial, we use advanced photo and video equipment for underwater use. Underwater technology is developing fast, and we are trying to keep up.

Is your equipment sourced from Czech or foreign companies? Do you cooperate with them in developing specialized tools?

We are trying to provide our police divers with the best equipment available, as their lives and health depend on it. We use gear for highly specific environments, such as HAZMAT zones.

For dives in oil-contaminated waters, we rely on Kirby Morgan helmets from the USA, which are among the world’s best. For deep dives, we use Liberty rebreathers from the Czech company DIVESOFT – these are considered world-class. We cooperate closely with this Czech company and provide feedback to support their innovation and development.



Work in a confined space of a well during the recovery of human remains



Primary decontamination of a diver from HAZMAT environment



Searching for items important for criminal proceedings in a household waste cesspool

How frequent are real-life interventions and what is their typical character? How do your divers prepare for extreme conditions (ice, caves, currents, murky water), and how is their safety ensured? Who decides about deployments?

It's hard to say exactly how often we are called out, but generally it's dozens of times per month. Summer is our busiest season. The most common task is searching for missing persons in water.

We train regularly in a variety of environments. Safety during training or real operations is ensured either by our own team or by medical staff from the Ministry of Interior's medical service.

All activities are based on directives from the police president. Specific deployment is usually decided by the operations officer at the regional police headquarters or the National operations center.

How do you deal with the mental resilience of divers who face difficult situations? Is there interest in this specialization among officers?

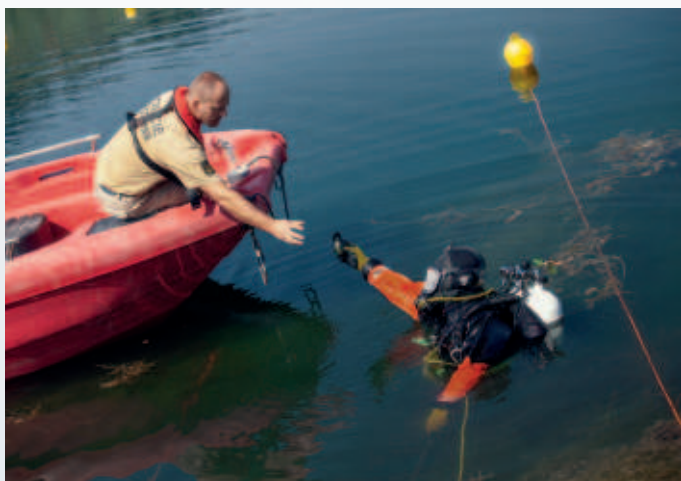
The demands on mental resilience are very high. Candidates must pass a psychological evaluation before joining. Once accepted, it's up to each person to develop their own coping strategy – dark humor is quite common among colleagues.



Pyrotechnic material documentation under the water – Black lake, Bosnia and Herzegovina



Work with action camera GoPro under the water – Black lake, Bosnia and Herzegovina



Hand grenade handover to an EOD officer – river Una, Bosnia and Herzegovina



Transshipment of found and recovered ammunition – river Una, Bosnia and Herzegovina

Throughout their career, divers have access to police psychologists who help them deal with stress or trauma. We are glad that there is still an interest among our officers, but most applicants fail the medical or psychological tests, as the requirements are above standard.

Do police divers carry out special missions abroad?

Yes, our divers are currently working with colleagues from the Bomb disposal unit and selected regional SWAT teams to clear water areas of mines in the former Yugoslavia. Our department also helps train local bomb disposal divers.

Is there international cooperation – such as joint training or experience exchange? Do you follow foreign trends or approaches?

Absolutely – this is necessary. As mentioned, our divers and EOD specialists train with civil

protection units from Bosnia and Herzegovina (FUCZ) and Republika Srpska (RUCZ). These trainings and missions are invaluable, even for domestic work. We also work closely with Austrian colleagues in underwater explosive ordnance disposal training. Learning from others and adapting their methods is always beneficial.

Does the Czech Republic have sufficient technical infrastructure for specialized police diving, or do you rely on other countries? Does any training happen abroad?

Currently, we are fully self-sufficient in terms of equipment and facilities. We mostly train in the Czech Republic, including standard dives and ice diving. For deep diving (over 100 meters), we train abroad – especially in Croatia, since cold water and poor visibility here make such training impossible. When budget allows, we also train in cave systems in Hungary and other international locations.

How has police diving changed over the past decade, and what are your plans for the future?

The path of police diving has been long and challenging. The D.S.D.A.T. department, as we know it today, was created in response to the Orlík murder cases – at that time, the equipment and skills of police divers were not adequate for deep dives. So, ten years is a short time in our development.

And plans for the future? We want to keep training new, promising police divers, continuously educate current ones, advance technically and professionally, and most importantly – always return safely to the surface.

Dear colonel, thank you for the interview.

*Jaroslav Jonák
Photo: PCR*



Work of two divers during the bottom survey using metal detectors – river Sava, Bosnia a Herzegovina



Underwater documentation of pyrotechnic material – Black lake, Bosnia and Herzegovina



KOUTNÝ – A CZECH FAMILY COMPANY – celebrates 30 years on the market this year

Our company Koutný is celebrating thirty years on the market this year. We have always strived to supply high quality clothing to customers in the Czech Republic and around the world. In 2020, we became the largest clothing company in the Czech Republic. Last year, we obtained ISO 14001:2015 certification; we also hold the ISO 9001:2009 and AQAP 2110 quality certificates. Our production incorporates a share of sustainable materials such as recycled polyester, RWS (Responsible Wool Standard) and organic cotton. In 2023, our company installed photovoltaic panels on all its buildings, and thanks to this sustainable approach, our company is now much closer to implementing ESG, setting decarbonisation goals and achieving circularity.

In order to facilitate collaboration with other entities, we have joined the CLUTEX cluster. We are one of the most reliable suppliers of formal and field uniforms, special-purpose combat clothing, overalls, waistcoats, suits, jackets, trousers and many other products, mainly for NATO countries. We strive to meet our customers' high demands for material and the technological quality of our workmanship. We approach each order individually in order to deliver on time and in the required quality.

We make formal and field uniforms that are crease-resistant yet comfortable to the touch, made of high quality materials from Italy, France and Spain.

The list of our customers includes the Police of the Czech Republic, the Forest Service of the Czech Republic, Fire Brigades of the Czech Republic, the Prison Service of the Czech Republic, the Customs Administration of the Czech Republic, the Czech Army, the Royal Netherlands Army, the Austrian Army,

the Prague Castle Guard, the Customs Administration of the Netherlands, Prague Airport, Czech Airlines, and many others. We also produce classic menswear. We sell men's ready-to-wear and made-to-measure suits through our own stores in the Czech Republic. You can visit us at seven company

stores located in Ostrava, Prostějov, České Budějovice, Karlovy Vary, in Prague's Bílá labuť and Letňany shopping centres and in Hradec Králové. We try to meet the demanding requirements of our customers, which is why we also sew tailor-made garments. We have been here for you for 30 years.



THROUGH THE EYES OF THE EXHIBITORS & VISITORS IDET | ISET | PYROS

We visited Czech companies and asked exhibitors two questions:

1. What did you present at this year's exhibition?
2. How do you evaluate this fair and was your participation beneficial for you?

ČESKÁ ZBROJOVKA a. s. – Hana Machů

1. At this year's IDET 2025 exhibition, we showcased a comprehensive overview of our portfolio for armed forces, including several exciting new products. The main highlight was the domestic premiere of the CZ BREN 3 rifle, accompanied by the CZ SHADOW 2 CARRY and CZ P-09 NOCTURNE pistols, as well as the modernized CZ GL grenade launcher.

2. We evaluate our participation at IDET very positively – the event attracted a record number of visitors and official delegations from around the world. For our company, it was a valuable opportunity to strengthen partnerships, present new products, and reaffirm our strong position in the defence industry.



KŘÍŽ, spol. s r. o. – Libor Kříž

1. At the exhibition, KŘÍŽ presented itself as a manufacturer and supplier of patches, name tags, and rank insignia for the Czech Republic's security forces. We also made use of the occasion to display the Velorex of the 221st Helicopter Squadron from Náměšť nad Oslavou. After twenty years, it received a new "coat" in Viper- and Venom-style camouflage – naturally completed with patches from our workshop.

2. Our impression of the exhibition was very positive – the interest in our work was a pleasant surprise. The Velorex, affectionately called "Venda," drew both smiles and admiration from visitors. We believe Venda will serve well at the airfield and may even go on to represent abroad. At the same time, the event allowed us to showcase our products to both new and existing customers, reaffirming that we truly have something to offer.



DRONPRO, s. r. o. – Miroslav Tučka

1. At the IDET trade fair, we showcased the latest unmanned technologies for industrial, security, and defence applications. The spotlight was on drones from the DJI Matrice series – particularly the Matrice 350 equipped with a thermal camera and LiDAR for inspections and mapping, the Matrice 4T, and the autonomous Dock 3 system with the Matrice 4TD drone.

Demonstrations of FPV drones by Pilotix drew great attention, as did the presentation of a new UAV and UGV testing polygon being developed in Moravské Budějovice by the company FlyinDiamonds.

In the field of active counter-drone defence, we introduced equipment from the Israeli company ParaZero – a net-launching anti-drone gun and intelligent parachute systems designed to ensure safe drone operations even in challenging environments.

Visitors thus gained a comprehensive overview of the current capabilities of unmanned systems – from industrial and monitoring applications to tactical deployment and airspace



protection. We also presented the services of our flight school – the DronPro Academy.

2. We evaluate our participation at the IDET trade fair as very positive and beneficial. We had the opportunity to meet in person with many representatives from the integrated rescue system, security agencies, and other companies and organizations within our target group. We established new contacts and partnerships, received invita-

tions to future industry events, and were able to present our drone technology solutions live.

We were also pleased to see a noticeable improvement in the quality and level of the technologies presented compared to last year's edition. For us, the fair was not only a valuable business opportunity but also a source of inspiration and confirmation that the entire field is evolving rapidly.

KOUTNÝ spol. s r. o.

1. At this year's exhibition, we showcased a tactical uniform featuring integrated tourniquets for controlling arterial bleeding. The main benefit of this development is a significant saving of time and blood in the event of an injury to an individual.

2. The exhibition was attended by a large number of Czech and international delegations. As our primary customers are the emergency services and NATO armed forces, I consider this exhibition a success, with strong attendance and engagement.





RECORD INTEREST AT HISTORICALLY LARGEST IDET TRADE FAIR

The Brno Exhibition Centre hosted the most successful business gathering focused on strengthening defence and security. The 18th International Defence and Security Technology Fair IDET, together with the PYROS and ISET fairs, offered a comprehensive showcase of new technologies and solutions to meet various security challenges. This year, more than 650 exhibiting companies from 35 countries participated, and over the three days, the fairs were visited by more than 35,000 attendees.

"This year's edition of the security fairs was exceptional in every respect. In our region, there is no other platform that allows defence and security companies to present themselves on this scale, bringing together all the major players and achieving such international reach," said **Jan Kubata, CEO of Veletřhy Brno.**

IDET 2025 once again served as a key platform for domestic producers. *"I thank the organisers for arranging a fair that is crucial for the defence and security industry. Here we can show not only our armed forces and security units, but also more than 50 international delegations what we can produce and how advanced our technologies have become,"* stated **Jiří Hynek, President of the Defence and Security Industry Association.**

VIP Guests and Record International Participation

The significance of this year's edition was underlined by the attendance of high-ranking officials from the Czech Republic. The opening address was delivered by President of the Czech Republic Petr Pavel, accompanied by Defence Minister Jana Černošová, Slovak Defence Minister Robert Kaliňák, Minister Guy Kabombo Muadiamvita from the Democratic Republic of Congo, South Moravian Region Governor Jan Grolich, Brno Mayor Markéta Vaňková, Chief of the General Staff of the Czech Army Karel Řehka, General Director of the Fire Rescue Service Vladimír Vlček, and the First Deputy of the Police President Tomáš Lerch. Delegations from armed forces

representatives from a record 52 countries attended the fairs. Interest from foreign journalists was also at a record high, with 286 media representatives from 12 countries accredited at the press centre. International exhibitors were prominently represented, mainly from Germany, Slovakia, Poland, and Hungary. India made its official debut at IDET, while Austria, Hungary, and Slovakia also had official stands.

Ministry of Defence and Czech Army in Grand Style, Signing Key Contracts

This year, the Ministry of Defence and the Czech Army prepared their largest-ever exhibition under the motto "Strength in Unity." Over 600 soldiers were involved, more than 200 pieces of



equipment were displayed, and recruitment activities were prominently featured. The Army presented itself as a technologically advanced institution ready for the modern demands of future conflicts, where speed, precision, and information security are crucial.

As part of ongoing modernisation efforts, numerous negotiations on new acquisitions took place throughout the fair. Discussions on contracts and partnerships were held intensively across the three days, and some pre-agreed contracts were finalised. Examples include three key industrial cooperation agreements between Czech companies AERO Vodochody, VZLU AEROSPACE, Vrgineers, and the American company Lockheed Martin, regarding the acquisition of 24 F-35A Lightning II aircraft for the Czech Army. AERO Vodochody and LOM PRAHA signed a declaration of intent to jointly develop the L-39 Skyfox system using modern LVC technology. Omnipol signed a strategic agreement to establish the Roshel CZ joint venture and begin local production of Senator vehicles in the Czech Republic.

Premier Technologies and Awards for Innovation

At the Czechoslovak Group exhibition, the general partner of this year's edition, the wheeled infantry fighting vehicle Pandur 8x8 EVO from Tatra Defence Vehicle had its world premiere. Omnipol introduced the Senator

armoured personnel carrier from Canada's Roshel. At Česká zbrojovka's stand, the third generation of the highly popular CZ BREN rifles had its Czech premiere.

As is traditional, IDET recognised the most innovative exhibits. This year, the evaluation committee awarded **four "Golden IDET 2025"** prizes to: the GLADIUS MAX remotely operated weapon station from EVPÚ Defence, the AI-controlled Air Defense Solution UAV from TRL Space Systems, the Pandur 8x8 EVO wheeled armoured vehicle from Tatra Defence Vehicle, and the 30x173 mm SAPHEI-T/SD round manufactured by ZVI.

Additionally, **three honorary mentions were given to innovative exhibits:** the KALAN amphibious tracked vehicle from New Space Technologies, an autonomous swarm of reconnaissance robots and drones presented by the Faculty of Electrical Engineering and Communication Technologies at Brno University of Technology, and the EGIS NG technology demonstrator from Ray Service.

The Personality Award of the Defence and Security Industry Association went this year to Ing. Vítězslav Motka, whose professional career is linked with Meopta Přerov. Four prestigious journalism awards, "Golden IDET News 2025," were also presented. The foreign exhibitor award went to Ukraine's UGVR Machinery; in military vehicles, TATRA EXPORT received recognition for the TATRA

810 M; EVPÚ Defence was honoured for the APS HARPIA active protection system for armoured vehicles; and LOM PRAHA along with its subsidiary VR Group were awarded for their Full Mission Simulator project for the L-39 Skyfox aircraft.

New Themes and Expert Conferences

IDET highlighted new key topics such as space defence and the use of 3D technologies. For the first time, the Space Defense and Startup Zone was opened as a specialised platform supporting partnerships between emerging companies and established industry players. The accompanying conference "Defending Europe Together," co-organised by Czech DEPO Ventures and Lithuanian BSV Ventures, was also a success.

The 3D technology focus covered additive manufacturing in the defence industry, particularly for the development and production of weapons, drones, and other military equipment. The inaugural 3D-ARMY professional meeting attracted strong interest, with participants from the Czech Republic, Germany, Austria, Spain, and Israel.

The Czech-Israeli Chamber of Commerce hosted a conference at IDET on new technologies used in Operation Swords of Iron. Two major conferences were also organised by the University of Defence: the International Conference on Military Technology and



the International Conference on Defence & Strategy.

PYROS, ISET, and Large-Scale Demonstrations

The PYROS fire technology and services fair, along with ISET security technology and services, also presented notable innovations. A highlight was the world premiere of the Czech amphibious KALAN vehicle at New Space Technologies' stand. This amphibious tracked vehicle, with exceptional off-road capability and full water operability, can evacuate up to 80 people and transport up to 13

tonnes of material. It is designed for multi-purpose or specialised civilian and military use and was developed in close cooperation with the Czech Fire Rescue Service.

A memorandum of cooperation at PYROS was signed by THT Polička and ProLab Engineering. Together they presented the Hector firefighting and supply robot, which offers both conventional control and partial autonomous operation powered by an advanced AI navigation system.

All three fairs took advantage of the unique Brno Exhibition Centre environment, which

allows large exhibits to be presented both statically and in action. The outdoor **IDET ARENA**, featuring a terrain polygon, served throughout the fairs as the venue for dynamic demonstrations of military, firefighting, and police equipment. A new feature was a joint project by the University of Defence and 3DFENSE, showcasing on-site UAV system production and assembly inside a mobile container.

The next IDET, PYROS, and ISET fairs will take place in May 2027.





Photo: Veletrhy Brno and Lauren Imari Cooková



29TH AOBP GENERAL ASSEMBLY: Stronger, More Connected, More Ambitious

On June 5, 2025, the 29th General Assembly of the Defence and Security Industry Association (AOBP) took place at Brno University of Technology, offering not only a review of the past year but also a clear vision for the future.



In a rapidly changing security environment, amid European discussions on defence industry capacities and the growing interest in Czech technologies, AOBP over the past period has:

- Strengthened its membership base by almost 40 %, now bringing together over 220 companies from the defence, security, technology, and research sectors;
- Actively opened new export opportunities worldwide, spanning Europe, the Middle East, and Southeast Asia;
- Worked to secure better financing for defence projects, maintaining strategic dialogue with the banking and investment sectors;
- Intensively cooperated with the Czech state administration, European institutions, and international partners,
- Participated in a wide range of professional events, educational programs, and innovation support initiatives



Today, AOBP is a stable and respected partner not only for government institutions but also on the international stage.

AOBP thanks all its members for their trust and active support. Through this cooperation, the Czech defence and security industry can continue to play an increasingly strong role both at home and abroad.



Photo: AOBP Czech Republic



SINGING ROCK JACK

SINGING ROCK presents compact **descender JACK** for work at heights designed mainly for rope access and rescue operations. Its advantages are durability, maximum simplicity and intuitive operation. Can be used for positioning, ascending and descending on the work line, as well as for lowering and belaying persons. Automatically locks the rope, allowing the user to concentrate fully on the work. Speed of movement on the rope is conveniently controlled by the lever. Easy retrieval of the rope allows the device to be used for short rope ascents. With an unloaded rope, the locking mechanism can be deactivated by pressing the cam and thus the rope can be pulled out of the device without using the lever - this allows the device to be used for quick movement on a flat roof.

Patented design with magnetic holding of the cam facilitates rope insertion. It is not necessary to disconnect the device from the harness when inserting and removing the rope. No additional friction is required up to a load of 200 kg. Compatible with a wide range of rope diameters 9.3–12 mm (see specifications for individual standards). Parts in contact with the rope are made of stainless steel, which prolongs the lifetime of the device. Using a screw, the device can be permanently locked to the rope to create a non-removable system. Lever and lock can be disassembled and cleaned if necessary.

JACK weights 410 g with maximum working load 200 kg and fulfill the requirements of the following standards: EN12841-C, 10 – 12 mm, max. load: 200 kg; EN341-2A, SINGING ROCK STATIC 11, max. load: 150kg, max. descent length: 100 m, min. temperature: -30 °C; EN15151-1 type 6, 9.3–11 mm.



With JACK, work is fun.

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PUBLISHER'S PLAN 2025 – REVIEW FOR DEFENCE AND SECURITY INDUSTRY

Review 4/2025

Annual meeting of the representative editorial board, awards for 2025, interviews

- Deadline: **14th November 2025**
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A TRIBUTE TO THOSE WHO WERE NOT AFRAID TO FACE THE THREAT

The Winged Lion Memorial on Klárov in Prague, commemorating the heroism of Czechoslovak airmen in the ranks of the British Royal Air Force during World War II, has undergone a careful restoration and enhancement after eleven years. The ceremonial unveiling took place symbolically on June 6, the day the world marked the 81st anniversary of the Allied D-Day landings in Normandy.

The restoration included the addition of the insignia of all Czechoslovak RAF squadrons as well as emblems of the Czechoslovak Air Force and the British RAF. The memorial, gifted by the British community living in the Czech Republic and Slovakia in 2014, honors the courage and sacrifice of more than 2,500 Czechoslovak airmen who fought for the freedom of Europe.

The commemorative event was attended by prominent figures, including the Deputy Speaker of the Senate, the Minister of Defence, representatives of the armed forces, the British Ambassador, and other guests. The ceremony also featured a flypast by L-159 ALCA aircraft of the Czech Air Force. The son of a Czechoslovak pilot, whose legacy the memorial carries, highlighted the unforgettable bravery of those who gave their lives for freedom.



The Winged Lion Memorial remains a powerful symbol of friendship and shared history that has endured since 1918, serving as a place where people gather to honor the

courage and sacrifice of the Czechoslovak RAF airmen.

Author & Photo: Lauren Imari Cook



PRECISION TO HALF A HUMAN HAIR



The story of one of the most successful and continually growing metalworking companies in the Czech Republic begins with Mr. Rudolf Arlt, the founder of AR KOVO.

Rudolf Arlt's son, Jiří, studied at the Czech Technical University in Prague (ČVUT) and went his own way at first. But when his father called him in 1995 to say that thanks to cooperation with a German partner, he had bought machines for about ten million Czech crowns and needed help programming them, he joined the company as a programmer. Today he is the company's Production Director and General Manager.

The latest generation of the Arlt family, Jan, joined AR KOVO in 2015. He knows the company and its work from the ground up and currently works as its Sales Director.

Seventy percent of the company's products go to the healthcare sector, and they also work with companies in the fields of hydraulics and biomass combustion technology and supply

components for the defence industry. "We maintain a high standard and work on Japanese CNC machines, which we replace with new machines after about ten years," says Jiří Arlt, clarifying the company's production quality strategy.

AR KOVO is one of the leading Czech manufacturers of parts for medical valves, which requires high quality, precision and quality materials. They have been collaborating for a long time with the largest global manufacturer of hospital and nursing beds for advanced care.

One of the important directions in the company's development is its cooperation with manufacturers and suppliers for the defence sector. AR KOVO offers serial machining of parts. For measurement the company uses, for example, Werth or Keyence machines, a production data monitoring system and an established quality management system according to ISO 9001.

Just as a matter of interest – the smallest AR KOVO product is 4 mm in diameter –

so accuracy, precision and quality are absolutely essential. At the other end of the scale, the largest products had a diameter of more than 300 mm. They were made for an aircraft factory. But the production volume is not negligible either. One machine can produce up to 6,000 parts in a day; in 2024, they produced eight million parts, which means that a new part is produced every four seconds. Each year, production increases by approximately fifteen percent.



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30
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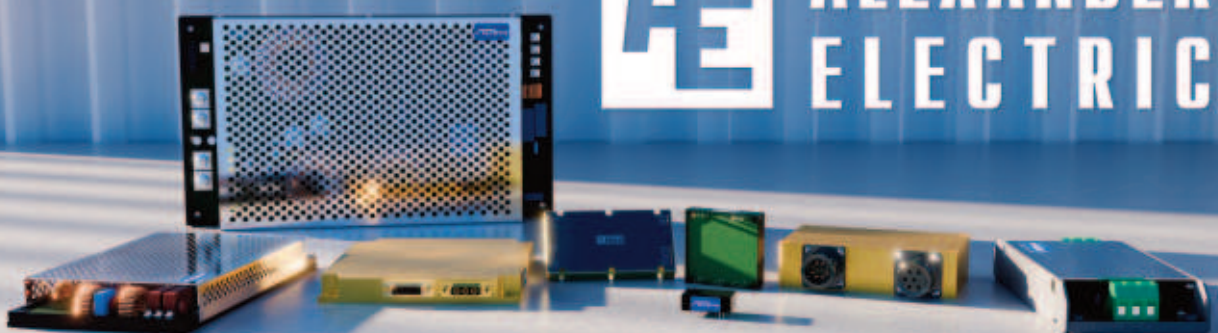


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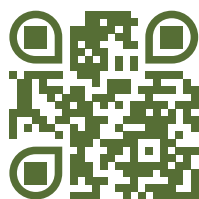


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