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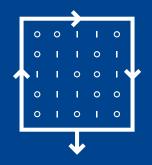
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#### **EDITORIAL**

#### Dear readers,

this edition is published on the occasion of the events held on the 17th-18th September at the Leoš Janáček Airport in Ostrava, the 22nd NATO Days and the 13th Air Force Days of the Czech Republic. Participants from up to 22 countries will arrive for this third weekend of September under the partnership of the North Atlantic Alliance, and this means a record-breaking international participation. And our Publishing House appreciates to be the media partner.

We bring to you interesting articles from the production of companies involved in the security and defence industries of the Czech Republic such as AURA, Omnipol, Tatra Trucks, Česká zbrojovka, Tovek, TONER, EVPÚ Defence, Protect Parts, Explosia, Rubena, LPP or Veletrhy Brno. We have also prepared for you interviews with the head of the Police of the Czech Republic, Maj. Gen. Martin Vondrášek and the director of the top medical facility for aviation personnel, MUDr. Petr Chmátal.

I would also like to mention the upcoming FUTURE FORCES FO-RUM, held on 19-21 October at PVA EXPO Prague-Letňany, where we are the main media partner for the Czech Republic and would like to invite you to our joint stand with DSIA.



Šárka Cook, Editor in Chief







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## Interview with the Police President Major-General Mgr. Martin Vondrášek

The Minister of the Interior of the Czech Republic appointed Martin Vondrášek the Police President on April 1st, 2022. He has been working for the Police since 1993, starting in a district department, serving with the Aliens and Frontier Police, and subsequently working in management positions at all levels. For the last eight years, he held the position of the First Deputy of the Police President.

#### Mr. Police President, where did you work before joining the Police, what was the reason for this change and what were your ideas?

I think that only a few young people know exactly what they want to do after school. After graduating, I joined ČKD, and I also worked briefly in a bakery. In 1992, I followed several of my friends and joined the Police of the Czech Republic. We agreed that it would be nice to serve together in one department, in the place where we grew up. And it worked out for us. The idea probably came from my general view of the world. My personal values are such as justice, freedom, and democracy at a very high level since I was young. In any case, ideas are one thing, and reality is often different. But I never regretted my decision, from the beginning I enjoyed the diversity the service brings. Will the service be quiet today? Or with an intervention? Search action? Will we help someone? As a young man, this kind of tension suited me, and thanks to the great team we

What are your priorities in this important position? After taking the office, you declared, among other things, that you want to be transparent and communicate openly.

had in the squad I like to think back to my

beginnings very much.

I would divide the priorities into framework ones that we have in common with the Ministry of the Interior of the Czech Republic, and which are based not only on my ideas, but also on Czech law, and also on the priorities of the Police President. Regarding those framework priorities, the Police of the Czech Republic must be visible, transparent, and professional and must be an adequate authority for the public. By emphasizing these areas, we will achieve our mission, which I see as quality service to the public.

Then there are more priorities of the Police President that are more specific. First and foremost, it is a matter of personnel stabilization of our squad, as human resources are the most valuable thing for any organization. I am not afraid to say that we have already succeeded in many partial steps in this area in recent weeks. We are also preparing a system for evaluating the effectiveness of individual police services, and another priority is, of course, technological development and the digitization of the administrative work. We also need to define an appropriate material and technical base and ensure its sustainability over time. We work with the potentialities of further development of professional and managerial education and I also want to focus on the revision of the settings of the control system and internal managerial acts. The penultimate priority I set when I took office was to take decisions on organizational changes within the Criminal Police service and investigations, which had been discussed for three years. All this blends the last and no less important priority, which is the open communication you mentioned. Without open and effective communication inside and outside the Police Forces, it simply cannot work.

#### Are you planning any major organizational changes?

I am convinced that the Police of the Czech Republic is set up correctly and does not need any major organizational changes. We can talk about partial changes, such as those related to the Criminal Police service and investigations. We are not and cannot be a "frozen" organization. The fact that some settings have worked in recent years does not mean that they are adequate now or that they will be satisfactory in the future. But in general, I am not talking about any radical reorganization, but rather the optimization or streamlining of activities concerning current needs.

It is known that the Police have several thousand vacant table positions and hiring, resp. recruiting new Police Officers certainly does not go according to our ideas. What importance do you attach to human resources and what do you want to do to improve this situation?

I attach essential importance to human resources! I say this everywhere and every time, on all occasions; we have nothing more valuable than people. We must divide personnel issues into two basic levels. To the level of recruitment and the area of personnel stabilization. The truth is that we currently lack more than 5,000 officers. However, it is also true that the real number of Police Officers have been practically unchanged for six years. We have been relatively successful in recruiting new candidates in recent years, but a comparable number of officers leave our ranks every year. In mid-May, we launched a recruitment campaign, which has the motto "Work 158 times differently", in which we want to point out, with some exaggeration, the wide possibilities of working for the Police of the Czech Republic. The timing was not accidental either, we target graduates in particular.

However, the Police of the Czech Republic is aging, there is a generation gap caused by the stopped recruitment in the years when the savings were made in the wrong places. Unfortunately, many officers reach the age when they are thinking about leaving the service, as they see opportunities for employment elsewhere. We must focus on these; we want to offer perspective, opportunities, background, and a stable and friendly environment, including motivational and stabilizing elements. This is the only way we can succeed in gradually reducing the unflattering 5,000-personal staff deficit. It's about patient work, communication, and above all, it can't be done from day to day.

How satisfied are you with the material and technical equipment? Does the Czech Police have a concept of armaments and purchases? For example, bulletproof vests have a given lifespan and must be replaced... Do you somehow cooperate with the Czech industry, or do you cooperate with Czech companies when purchasing, do they apply for tenders?

As I have already said, defining the appropriate material and technical base by a decree of the Minister of the Interior and ensuring its sustainability over time is one of my priorities. Understandably, we do not want to look to the future with concern as to whether we will have sufficient resources to change this or that, what we need for our work.

In this context, however, I must state that in recent years, a lot of great work has been done to exchange the property, the most visibly probably in the field of service vehicles, but not only there.

Cooperation with industry and companies is, of course, possible, but we must realize that it has its limits, which are determined primarily by the Public Procurement Act. With specific exceptions, we move within the scope of this law and in no case can afford to leave these barriers. In the field of development, research, or innovation, the situation is a bit different; there are often more interesting opportunities for specific cooperation.

#### What foreign missions are your Police Officers currently working in? What are their main tasks there?

We can divide the work of our Police Officers abroad into three main groups. Based on bilateral cooperation, we currently have contingents in Northern Macedonia, Hungary, and Slovakia. The main task there is to protect the borders from illegal migration in a wide range of activities, in Slovakia we perform tasks arising from the needs of Slovak colleagues, especially to help control and handle incoming war refugees.

More than forty of our Police Officers also work in the joint operations of the European Border and Coast Guard Frontex, on all types of borders, i.e. land, sea, and air. In addition to border guard under the Frontex banner, our experts work in the sphere of documents, stolen vehicles, or identification and further work with migrants.

I must also not forget foreign peacekeeping operations, where we send colleagues either as instructors or advisers.

#### And what tasks do the Czech Police perform at home concerning war refugees from Ukraine?

There have been more than enough tasks since the very beginning of this war. Within the regional assistance centers, everyone has done and still does a huge amount of work, and I am really proud of them for that. I could name the registration of incoming refugees, verification of their identity, verification of the right to be granted visas for the purpose of tolerance or temporary protection, cooperation with the Fire and Rescue Service of the Czech Republic and the Department of Asylum and Migration Policy of the Ministry of the Interior. We have prepared the necessary information and preventive materials for refugees and Police Officers have actively offered to help, for example, those who speak Ukrainian. I don't want to forget any of the activities.

It is clear that the arrival of such a large number of people also carries possible risks. We, therefore, prepared their analysis, designed tools to eliminate these risks, and identified the necessary resources. At each territorial department, i.e. at the district level, there are specialists from the Criminal Police and Investigation service who deal with the Ukrainian diaspora in their territory and have an overview of what is happening in this community. Again, we are trying to act primarily preventively in this area. Since February 24th this year, we have not recorded an increased crime rate of Ukrainian nationals or foreigners in general in the Czech Republic.

#### Mr. Police President, you have studied, among others, at the Central European Police Academy ("MEPA"\*). Surely you have your vision for cooperation with foreign Police Forces...

Not only have the current events clearly showed that international police cooperation is essential. In today's globalized world, crime does not stop at borders. We need information, we need to share experiences and work together effectively. I am glad that we are not "inferior" on the international scene, on the contrary, we have built respect in many aspects and many foreign Police Forces are learning a lot from us, just as we can be inspired elsewhere. What are worth mentioning are the security development cooperation projects in the Western Balkans, the already mentioned bilateral cooperation, but also our very important role in Interpol, representation in the European agencies Europol, Cepol, Frontex, and in many other transnational platforms.

*Mr.* Police President, thank you for the interview and I wish you many personal and professional successes Jaroslav Jonák

\* "MEPA" (Mitteleuropaische Polizeiakademie) was founded in 1992 on the initiative of Austria and Hungary. The Interior Ministers of eight Central European countries signed the binding document "Joint Declaration on Cooperation within MEPA", on the basis of which they undertook to send middle and senior Police Officers to training activities organized by MEPA. The main task of MEPA is to train senior Police Officers within international cooperation. Its members are Germany, Austria, Switzerland, the Czech Republic, Slovakia, Hungary, and Slovenia; MEPA is headquartered in Vienna.

## An Interview with the Director of a Top Medical Facility for Aviation Personnel

The Institute of Aviation Health Prague belongs to the top medical facilities in the Czech Republic. The very name of the Institute already expresses its focus. In addition to services for the general public, its primary task is the care and professional supervision of the health state of air personnel. We have been in media contact with IAH Prague for almost 20 years, which is why, after a longer pause, we visited the current Director of this specialized facility, MUDr. Petr Chmátal, Ph.D., MBA.



#### Dear Mr. Director, how would you briefly characterize the role and current position of the Institute of Aviation Medicine (IAM) Prague?

The Institute of Aviation Medicine Prague is a state medical facility whose basic goal is to provide comprehensive health care to aviation personnel. Why pilots? This is due to the nature of the profession, due to its big general and individual risks, and, inevitably, its financial expensiveness.

But a well-run company should never "stand on just one leg". The capacities of the Institute therefore also serve the public health sector, we take care of patients of all health insurance companies, and patients come to us from departmental and regional catchment areas. This is our "second leg". The third pillar, the "third leg", of the Institute is the specialized training and preparation of pilots in the field of aviation physiology. This segment of work is mainly directed toward military flying and flying under special conditions. Those who know the Institute more closely know that the Institute is being settled in two locations, one covering clinical and assessment medicine, and the other location where training and hyperbaric treatment take place.

From a legal and economic point of view, we are an allowance organization. We can understand from the above mentioned that we are under constant, benign pressure from the founder on the effectiveness of spending funds and self-financing. On the other hand, I must say that the Ministry of Defence is a reliable partner for our Institute, without its broad support there would be no institute as you know it, and Czech aviation would also suffer.

Most countries in the world have an institute of our character. And since aviation is closely connected with the military from the very beginning to the present, the founder or owner in the vast majority of countries is the army, in our case it is the Ministry of Defence of the Czech Republic.

#### What major changes have occurred in your organization over the past decade?

Ten years is a long time in the life of us people and an organization like the Institute. And organizations, as well as people, are living organisms. If they do not undergo a continuous transformation, they die. That is the general answer to your question. We live within the transformation from today to the future, so believe me - it's not easy to remember projects from years ago. The focus of our conversation is primarily on aerial judging, so I'll start with that.

In accordance with changes in Czech and European legislation, we established a department of occupational medicine after 2013. This department combines the assessment process and its conclusions. It is authorized to provide general medicine and occupational medicine services and guarantees correct assessment practice according to the law "on the provision of special health services". At the same time, it covers the work of the aeromedical centre ("Aeromedical centre" according to European regulations) for the assessment of aviation personnel. In this way, it was possible to assemble a team of experts whose services are used by aviation and civilian personnel, ministries, and central authorities, as well as



many commercially prosperous companies. In the field of clinical medicine, developments have affected almost all departments. New consulting rooms for new specializations were established, existing specialist departments were redefined, and the number of specialists increased. Diabetology and endocrinology have been developed within internal medicine. The Department of Functional Diagnostics expanded to include the specialization of cardiology, modernized and expanded dentistry, gastroenterology, otorhinolaryngology, and neurology. We started providing clinical psychology services, and psychology became a department of the Institute of Postgraduate Education in Healthcare, thus covering this field throughout the Czech Republic. Since last year, magnetic resonance has been working at the Institute, which is the pinnacle of the capabilities of our imaging methods.

The ophthalmology department is a separate chapter. Of course, ophthalmology belongs to the spectrum of specializations supported within aviation medicine. Under the leadership of Principal Nováček, it is an honour to the Institute. It is being superbly equipped. An operating theatre with adjacent facilities was built 5 years ago, and today the Institute performs operations in the entire wide spectrum of ophthalmology.

Since the surgical part was designed as a multidisciplinary one from the beginning, ophthalmological procedures alternate on designated days with a laparoscopic hernia, gall bladder, and other procedures within the framework of general surgery or orthopedic arthroscopy, etc.

We're halfway through the list and I won't pick out details. What I must definitely mention is the area of training expertise and accreditation, which the Institute has gained in a targeted manner over the years.

#### So how does the Institute intervene in the preparation and training of pilots?

Our training and expertise part works sepa-

rately in a section other than the clinical and has also undergone a significant organizational, personnel, and technological change in the last period. Subsidy investments from the Ministry of Defence were the main thing that supported the development. In the period we are talking about, they reached 250-300 million CZK. If we go step by step. The night vision classroom was modernized using computer simulation and projection. Here, pilots learn how to master piloting with night vision devices, get acquainted with its advantages, and, above all, with its intricacies and shortcomings. All this is in the backdrop of real airports and landscapes in different light and meteorological conditions and different seasons. Night air combat is a reality of the present and the near future. The second major investment was the modification of the disorientation simulator. The original one was a gift from the American government to the Czech state and has become physically and morally obsolete. Illusions caused by flight can become the cause of accidents, especially with military machines. I think this investment was also a signal to the world that our country does not just want to be a recipient of donations, but also wants to actively invest in the complement of the Air Forces. The third and largest investment was the reconstruction of the pressure chambers. Vacuum chambers are used to teach high-altitude physiology to pilots, pressurized ones are used to treating patients with a wide range of diagnoses. The original chambers were the work of ČKD Prague and were built in 1964. Although it was a timeless work of Czech technicians, they could no longer compete with current technologies. Nostalgically, we can state that there is no longer a company in the Czech Republic that would be able to implement a project of this scale. The reconstruction was carried out by the world's leading manufacturer in this area, the German company Haux, based on open over-limit management.

#### There arises a question - whether these investments are necessary for the small Czech Republic?

I think the answer is simple. First, the aviation industry represents a significant percentage of the Czech industry. It is certainly in the general interest to maintain supporting activities, including healthcare. Second, we have large-scale investments into new aircraft and helicopters, and the described modernization will pay us back. Thirdly, the technology of our Institute is used by allies, routinely Slovaks, Baltic states, and optionally other countries of the Alliance, we also co-operate in training non-alliance pilots if necessary.

#### Let's go back to the previous one. What did you mean by the Institute's accreditations?

The Institute has been accredited in two areas for the last decade. Behind each accreditation, there is a lot of work, a lot of fulfilled and at first glance invisible measures, administration, and organization. That is also why accreditations are generally not loved by employees. The Institute was accredited in the field of clinical medicine, I think as one of the few Czech facilities of this type, by the United Accreditation Commission; it is about meeting the rules for providing quality and safe health care. The second accreditation, also very important, is the approval of US Air Force aeromedical training. USAF accreditation authorizes our training department to train alliance pilots and is a guarantee of its recognition in all NATO countries.

#### How does aviation medicine differ from other fields?

I will answer with an aphorism. "If God wanted people to fly, he would have given them wings." Statistically, more than 90 % of air accidents are caused by the human factor. The task of aviation medicine is primarily the prevention of sudden events related to the health status of pilots. That is the right choice, timely diagnosis, and appropriate treatment, which will keep pilots in the profession. In addition, knowledge of physiology, which is applied in aeromedical training for special situations, for example altitude hypoxia, etc. All this together with the field of hyperbaric medicine gives the content of special specialized training. Here you can graduate as an extension of the basic specialization. For practice in our country, it is important that there are doctors in the basic medical fields (all are concentrated in the Institute) who have this knowledge and are able to apply it in their practice. That is the "ability", the "know how". Therefore, from the point of view of European legislation, IAM is an aviation medical centre. In general, it can be said that aviation medicine is an ideal addition to general medicine because, like it, it works in all fields. However, this does not mean that a surgeon cou-Id not become a good aviation doctor.

Roughly 15 years ago, the Institute was faced with a discrepancy between legal standards relating in particular to the legislation of Czech aviation medicine and the EU. What is the current status?

This is the period of adoption of the European Regulation 1178/2011. This regulation unified the assessment practice in aviation in the EU countries and liberalized the medical examination market. In many countries, including our country, this meant a big cut to the established order, and from a conservative point of view, there was a lot of opposition to the regulation. But you see, we coped with it.

I must make the remark. The regulation brought some risks, especially in countries with a lower level of civil discipline. It transferred a significant part of the responsibility to individuals. Primarily to aviation personnel, but also to individual doctors. The debate about the new rules rose again after the tragedy of the Germanwings flight.

In the Czech Republic, the rules of 1178/2011 and subsequent amendments are fully accepted, put into practice, and the Institute bases its work on them.

We have two deficiencies in the field of legislation. The first is the lack of interpretative coherence between the Act 373/2012 Coll. "On Special Health Services". Because European legislation is superior to Czech legislation, we proceed according to Regulation 1178/2011. However, our clients' lawyers tend to confuse the case by using the dodges of Czech law. Fortunately, these are exceptional cases. I see the second shortcoming in the absence of mandatory reporting of risk diagnoses. In the case of mental disorders, brain diseases, and similar conditions, weapons or driving licenses are automatically restricted. However, the information does not reach the authorities issuing pilot licences. We have repeatedly pointed this out to the legislation of the Ministry of Transport, but so far the "ice has not moved".

## Is there cooperation and exchange of experience between similar facilities in NATO countries?

Logically, the collaboration is ongoing. We have repeatedly visited our German colleagues to consult on the regulatory problems that have arisen, we attend conferences. We have very close cooperation with our Slovak colleagues. Their complete aero-medical training takes place here. Regarding the changes in Slovakia, we have even formally established a detached IAM workplace there in 2018. With our support, the organizational problems were solved, but very close cooperation continues. Foreign colleagues also regularly visit our annual conference in Měřín, including active participation.

#### In conclusion, Mr. Director, I would like to ask - What are the essential tasks of your Institute at present and in the future?

The development does not stop and the tasks do not decrease. We can discuss them according to urgency, time sequence, areas of activities, etc. Recent events show that we will have to deal with the reciprocity of clinical examinations within the Alliance. We are awaiting reaccreditation in the professional area. In the field of personnel, the long-term goal remains the acquisition of young educated doctors and health professionals. It is not easy, the labour market in medicine is very tight. Developments in IT deserve attention. Although the Institute may have been the first in the country to switch to digital health documentation, the unification of air inspections within the EU has not yet been resolved.

You probably meant more in the area of investment, didn't you? We can satisfactorily state that the Institute is being well invested in terms of technology. It also follows from the above. What we lack is space. We have therefore started work towards the reconstruction and expansion of buildings. The first stage will be the reconstruction and expansion of a smaller building in the premises in Dejvice. We work in a heritage-protected area, so the procedure was framed by smiling communication with the monument preservationist department, credit to their work. In agreement with them, we already have an architectural solution, beautiful from my point of view, and we are proceeding with implementation. We would like to complete the project, including connecting the buildings with a glass bridge, in 2024 with the support of the founder.

The second direction in which we act is energy savings and greening of operations. We would like to use subsidy programs to secure modern energy sources (e.g. solar roof on a building in Střešovice) and modify building skin towards passive constructions. But all this is still in the stage of search and verification.

Thank you for the Interview, Eva Soukupová Photo: Adriana Jesenská

## LPP

Pilots land at Náměšt' airport using the new modern ILS/DME system. The system was delivered by LPP s.r.o. after successful military tests and before the agreed deadline.

Safe and precise landing in difficult weather conditions, or at night, is ensured by the ILS/DME system, which is now in operation at the 22nd Helicopter Air Base in Náměšť nad Oslavou/Vícenice. The device manufactured by the South Korean company MOPIENS and supplied by the Czech company LPP s.r.o. has replaced the current system that has been in use for twenty years, thus increasing the safety of pilots and personnel and reducing the risk of accidents.

On Wednesday 19 June, the Deputy Commander of the Air Force of the Czech Republic, Brigadier General Petr Lanči, the Base Commander, Brigadier General Rudolf Straka, and a representative of LPP s.r.o. met at the airport in Naměšť. Miroslav Žižka, who officially handed over the new system before the deadline.

Ell FEIRIN

RETURNE

#### Protect Parts

protective solutions



"The ILS/DME system manufactured by the South Korean company MOPIENS was installed in NATO and EU countries for the first time, yet it meets extremely strict requirements. The quality of the system and the seamless installation were confirmed by the military tests in June. Besides, the tests included an acceptance test (SAT), which the device passed up to the CAT 3 level when the army required CAT 1. Although this was the first of four airports, and with the time needed for the tests, we managed to deliver the device in advance," said Miroslav Žižka, Managing Director of LPP s.r.o.

The airport in Náměšť nad Oslavou/Vícenice is the first of four airports to receive a new modern system for safe and precise landing of aircraft. By the end of 2022,

the device will be installed at the 21st Tactical Air Base in Čáslav, and in 2023 at the airports in Pardubice and Kbely. As in the case of the first airport, the construction works and compliance with the legal requirements are the responsibility of LPP s.r.o., which has been operating in the field of military and especially aviation technology since 1993 and disposes of the relevant authorizations.

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## Tatra modern military trucks for the armed forces

Tatra Trucks is the second oldest truck manufacturer in the world with more than 170 years long tradition. Tatra vehicles with unique chassis conception based on the central backbone tube with independently suspended swinging half-axles and all-wheel drive system form the core of transport and logistic capacities of the Czech Army and serve in many armed forces around the world.

The company's core product for the defense sphere is the Tatra Force model line, supplied in configurations of 4x4 to 8x8 and more. However, the Force model line is also widely used in the rescue services and in the civilian sector for operation in very hard conditions (mining, transport of extreme loads, construction, etc.). Tatra Trucks supplies trucks and chassis of this model line to the Czech army and NATO armies, as well as to other armed forces in Europe, South America, and Asia (for example, Brazil, Indonesia). Most recently, Tatra Trucks has been working on the supply of dozens of Force model military firefighter trucks for German Armed Forces (Bundeswehr), and in recent years has supplied, for example, Force model chassis to the Danish army for wheeled self-propelled howitzers or to the Brazilian army for heavy bridge systems. The Force model line is equipped with air-cooled Tatra engines or liquid-cooled units by renowned manufacturers (e.g. Cummins). The Force model line can be equipped with standard or armored cabins certified according to NATO standards.

The Tatra Tactic model line is represented by medium-heavy trucks. They are

manufactured in 4x4 and 6x6 configurations with standard and armored cabins. The latest generation of the Tactic model is equipped with Cummins engines, the transmission can be either fully automatic or manual. The cabin with a capacity of four people has common unified elements with the Tatra Force model line and can be equipped with additional armor. In addition to the Czech Army, Tatra Tactic trucks also serve, for example, in the armed forces in the Middle East, where they are also manufactured under license.

The Tatra Phoenix model line is a key element of the company's civilian production program, but Tatra Trucks also offers it in a military version or for rescue service. The Phoenix series uses a combination of the original chassis of the Tatra concept and subassemblies of foreign manufacturers (e.g. DAF, Paccar or ZF and Allison). The Phoenix series is also used in NATO armies. For example, more than 900 military vehicles of the Phoenix model line Tatra Trucks company will manufacture in cooperation with DAF Trucks company for the Belgian army, while Phoenix trucks also serve in the Czech or Dutch army. At the Eurosatory 2022 fair, Tatra Trucks also presented the new Tatra Phoenix with an armored cabin with Level 3 resistance according to STANAG 4569, developed by Tatra Defense Vehicle.

Tatra Trucks also supplies its chassis platforms for special military vehicles by other manufacturers in Europe, Asia, South America and Africa. These include the Nexter's TITUS vehicles or Caesar 8x8 self-propelled howitzer or Israeli missile and artillery systems. Tatra chassis for military applications are exported, for example, to France, Israel, India, Brazil, Ukraine, Poland, Turkey, Jordan, etc., Tatra military vehicles are manufactured not only in Czechia but also in Slovakia or Saudi Arabia.

The Tatra Trucks is also focusing on future alternative power systems. He is currently cooperating with several Czech research organizations and universities on the development of a hydrogen-powered truck on the Tatra Force chassis in a special design for the hardest conditions and terrains. Tatra Trucks designs the complete integration of all components and drive systems on the Tatra chassis and will produce the prototype and later serial trucks.







of these fluids can save both time and money. Rubena's flexible storage tanks are used by military organizations around the world for temporary storage of liquids. Because the collapsible tanks have a high puncture and tear resistance, they are regularly deployed in arctic, tropical, or desert conditions. The tanks allow very rapid deployment and demand minimal space requirements, making them ideal where permanent water or fuel storage tanks are difficult to build.

Efficient and mobile storage is the foundation of

for the safe storage of military equipment, ammunition, or medical devices.

Collecting large quantities of liquids or having a well-designed storage system is the first step toward successful logistics in the defence industry. The Czech rubber company Rubena offers efficient solutions not only for fuel and water storage, but also

#### Features & Benefits

Rubena

army logistics.

Fuel and Water storage

- Durable and able to withstand harsh conditions
- Manufactured from high-quality materials
- Flexible and easily deployed
- Built to an internationally recognized military standard
- Available in a wide range of specifications

#### Dry storage systems

Dry storage systems are most commonly used to protect high-value assets such as military equipment, generators or ammunition. Storage systems need no construction, so they can be used in the open air. Installation is very simple, quick, and minimally laborious. Thanks to the quality processing, the property is protected against atmospheric influences in the long term, thus extending its service life. These factors allow military or other equipment to be strategically placed for rapid deployment. Dry storage systems have proven themselves in the arctic, desert, dry and humid environments. They can also be supplied in camouflaged versions or with camouflage features.

#### Features & Benefits

- The system is designed for temperatures from -40 °C to +120 °C
- High UV and ozone resistance
- Extremely low maintenance
- Suitable for almost any location





Rubena, s.r.o.

## Rubena

Company Rubena is a traditional manufacturer of rubber products, which are widely used in all industries:

- flexible tanks for storage and transport of various liquids,
- rubberized fabric fuel flexible tanks for aircraft industry,
- elastomeric solution for safe storage of military equipment,
- fenders and other pneumatic elements for port protection and port ecology,
- rubber-textile pneumatic suspension for off-road vehicles and special equipment,
- rubber V-belts,
- rubber and rubber to metal moulded parts/components.



# Explosia in Pardubice is going for a record

The year has only just swung into its second half, and Explosia can already sense that it's going to be a special year. The traditional explosives manufacturer from Pardubice has taken off after lean years and is aiming for a profit of over 100 million. The company's new management could give themselves an imaginary pat on the back, but Explosia's chairman of the board, Radomír Krejča, rejects this in the interview.



Traditional market fluctuations are experienced by all companies, not excluding those involved in the production of explosives. How does Explosia see it?

It's true, we see those fluctuations in roughly five-year cycles. We therefore try to keep the production of Explosia standing firmly on the following four pillars: production of explosives, smokeless powder, special products and fully combustible modules. When one segment fluctuates, the others are able to compensate for a while. However, in recent years, we have managed to withstand fluctuations and the numbers of both turnover and profit are steadily increasing.

#### So what attracts the most or least interest at the moment?

To give you an example, we are currently dealing with a decline in interest in classic industrial explosives that are used in quarrying. They are often replaced by the application of emulsion explosives directly into bores using charging trucks. And so we invested in new charging trucks and in equipment intended for work in quarries in general. There is an enormous demand now for smokeless powder, where we have contracts until the end of next year. The military conflict has led to increased interest in our explosives, and we have supplied products worth more than 150 million crowns for the defence of Ukraine.

#### It sounds like sunny days for Explosia, but it won't be that simple, will it?

That's right, there is no time for glowing smiles and contentment. We are constantly figuring out how to move production into the 21st century. Investments over the past decades have been significantly undersized, but in recent years we have been investing over 100 million crowns every year. We are currently dealing with the ever-increasing prices of energy and raw materials, and there is also pressure from the trade unions, which are trying to get as much as possible for the employees in today's difficult times. And because we value our employees, in the last two years we have agreed to pay a 13th salary for the first time in the modern history of the company.

#### So what is behind the success of Explosia?

Honestly, probably the straightening of the market environment within the company itself, which we restructured three years ago. There was a change and overall slimming of the management, the number of employees was reduced, and labour productivity increased by more than 30 percent. We focus on quality rather than quantity. This is also why Explosia has been able to cope with the ever-increasing and stricter requirements for product quality, which has also led to a decreasing number of complaints. Four years ago we dealt with twelve complaints a year, three years ago eight, two years ago five and last year only two out of more than two and a half thousand completed business cases per year. Any doubts about the quality of our products are therefore either based on insufficient information or, from my point of view, unfair competition.

#### So how much success does Explosia expect this year?

If business continues as it has so far, I am convinced that we can successfully exceed the 100 million crown profit mark, which would be the first time in the 20 years of Explosia's existence as an independent joint--stock company. And here it is appropriate to thank our people, who take their work very seriously and care about Explosia. We have been talking about the last few years, and you yourself mentioned that successes and difficult times alternate.

#### Are you not expecting a worse period then?

We can expect anything, but how the market will actually develop is difficult to predict. It is affected by the rising prices of energy and raw materials, higher personnel costs, and on top of that no-one knows how long the war in Ukraine will last and what it will bring. We therefore strive to ensure that the company runs in such a way that these fluctuations do not threaten it, that our people are always sure that they will receive a salary, and that our customers can obtain quality and time-tested products.

## Czech customized surveillance vehicles operate around the world

Vehicles equipped with advanced surveillance technology are essential to the operation of all security and law enforcement forces from border guards to riot police at major sporting or cultural events.

EVPÚ Defence's production of surveillance and monitoring vehicles is based on 20 years of experience in designing and building a large number of configurations for a variety of missions. The emphasis has always been on providing cutting-edge technology and a wide range of facilities to the operator, who performs his job from a workstation equipped with complex communication tools and a high-quality electro-optical system. This system typically comprises a day camera, a thermal imaging camera and a laser rangefinder. The customer has a choice of different sensor combinations to ensure that the capabilities of the surveillance system fully match the requirements of the mission for which the vehicle is intended. The electro-optical system is mounted on an electro-mechanical extendable mast made of anodised aluminium, which is suitable for a wide range of vehicles due to its variable height. In emergency cases, the mast can also be operated manually. Once the surveillance task is complete, the entire system slides seamlessly into a separate area behind the operator's workstation so as not to interfere with the discreet exterior of the vehicle.

Full operation requires only two crew mem-



bers - a driver and a surveillance system operator. However, the standard operator's workstation is designed for two people. Comfortable seats, car radio, air conditioning, independent heating, built-in fridge and adjustable lighting with dimmable LED strips contribute to the comfort of the crew.

In addition to the electro-optical monitoring system with a range of up to 25 km for the actual performance of the surveillance task, the vehicles also have a perimeter camera system that offers the crew an overview of what is happening in the vehicle's immediate surroundings. Everything is clearly displayed on separate screens. The basic equipment is complemented by a control panel, a PC with control software, a radio station, an LTE router for connection to the Internet or a secure data network, and a DVR device for recording video footage - for example, when the crew intervenes or collects evidence. Surveillance and monitoring vehicles pro-

Surveillance and monitoring vehicles produced by EVPÚ Defence are used by border guard units in the Czech Republic, Latvia, Greece, North Macedonia, Poland, Slovakia and Estonia. They have also been deployed in Frontex missions. In case of interest, you can find out more on

www.evpudefence.com.

#### THE MILITARY TECHNICAL INSTITUTE



#### **Mobile Data Center**

The Mobile Data Center offers unique all-in-one high-performance IT solution for mobile platforms. Ideal IT solution for on board installation to any tracked/wheeled vehicles or to small format boxes for tent based command posts.









## TOVEK enables to change the "silo mentality"

The silo mentality is a mind-set present in organizations when certain departments do not wish to share information with others. Silo mentality reduces the efficiency of the

overall operation, reduces morale, and may contribute to the demise of a productive organization culture.

Silo mentality distracts army from the overall mission, that is to guarantee the freedom and defend the state through military means. Within army, there are information silos of Intelligence, Logistics, Operations, and hundreds of others. Can we break the infor-

mation silos down? Information protection seems to be in a contradiction with the responsibility-to-share information. Hybrid Data Fusion (HDF) is a disruptive technology, that removes this apparent contradiction. HDF enables sharing information while they stay safe in different information silos. HDF allows to split the confidential information and indexes that allows to search for it. Using



multiple data indexing modes and data retrieving regimes, HDF provides capability to manage access to the data in environments where are more security authorities deployed and when multiple subjects need to cooperate together on a common mission. TOVEK introduced HDF capability to correlate information; analyze it; and present results in a coherent way when respecting security ru-

> les. To effectively use HDF an innovative Tovek Query Language (TQL) was developed. TQL enables performing database search; graph search; full text search; geospatial search; visual search; and audio search across various information silos using a single TQL query in a form of a mind map. TOL query can be easily shared of-line among different people in order to share a knowledge

about a topic and at the same time to share a knowledge how to retrieve information about it. TOVEK products enable responsible information sharing to boost effective cooperation within the army and also with allies.

## Unique mobile drinking water treatment plant

In difficult field conditions or even in the events of emergencies (natural disasters, etc.), operative provision of drinking water is often a problem. Therefore, for these cases TONER s.r.o. in cooperation with its partners, developed devices (also with special modifications for military needs) that solve these problems. It is a mobile water treatment plant that can comprehensively treat water from surface waters, such as a river, pond or stream. The basic characteristic and at the same time the uniqueness of the treatment plant is its design, which rests on a self-supporting frame made of lightweight alloy in the "backpack" design with its own energy source - 12VDC, which allows its eventual mobility in difficult terrain without the need for a motor vehicle.

Use and immediate commissioning is very simple. The treatment plant is located close to the surface water source, where the suction hose is inserted and plant is started with a single button.

The result is absolutely clean water, which is

completely free of all mechanical and chemical pollution. In the last phase, the treated water is enriched by adding a mixture of minerals so that the drinking water output meets the required Czech and European standards.

The capacity of the treatment plant is 60 - 90 liters per hour, depending on the water temperature (at 5 ° C - 30 L, at 20 ° C - 90 L). The treatment plant is powered by a battery with a capacity for 5 hours of treatment plant operation. In total, the treatment plant is able to produce 300 - 500 L of water per charge.

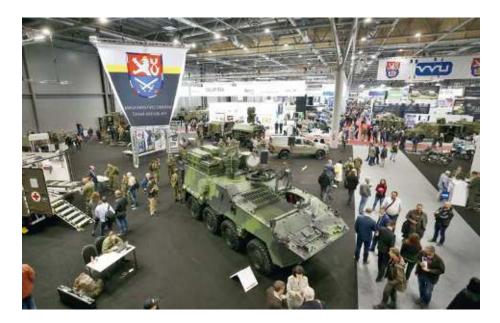
The treatment plant can remove mechanical impurities and turbidity, microbes including viruses, toxic substances such as ammonia, traces of heavy metals and radioactive elements, as well as organic impurities such as pesticides. The treatment plant will therefore also handle significantly polluted water.

The equipment includes a self-priming pump that is capable of continuous operation, a cascade of mechanical pre-filters up to the level of microfiltration, reverse osmosis, UV lamp, activated carbon and resin. A useful feature is the ability to check the battery capacity in the mobile application after connecting the mobile phone to the battery communication module. The equipment includes spare filter cartridges and osmotic diaphragms.

In addition to the portable treatment plant, the TONER company also supplies largecapacity container treatment plants with a capacity of 1 to 20 m<sup>3</sup> / h. It is a modular fully automatic system with an automated process of filter regeneration, chemical water treatment, visualization on the HMI panel of the main switchboard and optionally the possibility of remote monitoring of the treatment plant operation via Ethernet connection or communication modem.

As far as is known from public sources, no one in the world has yet produced or supplied similar mobile operating equipment for a drinking water treatment plant.

# IDET is celebrating 30 years since its first launch



The current security situation has reconfirmed the importance of the defence industry, which is a key part in the development of independent and self-sufficient states. In the Czech Republic, this industry has traditionally had a strong position resulting also from its export orientation. IDET is a major platform for the presentation of the Czech defence industry, scheduled to take place from 24 to 26 May 2023 at the Brno Exhibition Centre, celebrating thus 30 years since its debut. PYROS and ISET fairs will be held concurrently, focusing on the presentation of firefighting and security equipment and services.

#### New trade opportunities

Facing the ever-increasing security risks, states are paying increased attention to modernising their armed forces and increasing defence and security expenditure. IDET, which occupies a prestigious role in the NATO space, is the ideal venue to display new defence technologies. This expo is regularly visited by the highest political representatives, official armed forces delegations, and military and air force diplomats from many countries around the globe, which are commercially interesting for the Czech defence industry. IDET is always prepared in cooperation with the Ministry of Defence of the Czech Republic, which, as in previous years, is now preparing a large display together with the Czech Armed Forces, and with the Defence and Security Industry Association, which brings together over 130 companies from the defence and security sector.

#### Security Innovation Zone and Golden IDET

After its successful first run, the Security Innovation Zone project organised by the Czech DSIA will return to the expo, featuring a joint exposition of innovative start-ups with the aim of presenting their potential and connecting them with larger partners. New emerging technologies, such as artificial intelligence or virtual reality, can provide a significant technological advantage. The IDET Gold Award for the best exhibits will also take place.

#### **IDET ARENA**

A unique part of the fair is the IDET ARE-NA terrain polygon. On an outdoor area, visitors will be treated to dynamic demonstrations of military, firefighting and police equipment. Simulated intervention actions of various units are also an attraction. In addition to the polygon, the organisers are preparing additional extra programme focusing on hot topics.

#### PYROS and ISET held concurrently with IDET

The upcoming IDET fair will be held alongside the PYROS International Fire Fighting Equipment and Services Fair and the ISET International Security Technology and Services Fair. These fairs are close to each other in terms of industry and together they enable the presentation of all components of the integrated rescue system. Such a combination also brings advantages to exhibitors who can offer their products and services simultaneously to the army, firefighters, police and other armed forces. The Fire Brigade of the Czech Republic, the Police of the Czech Republic, the Customs Administration of the Czech Republic, the State Material Reserves Administration of the Czech Republic, the Prison Service of the Czech Republic and the Brno Municipal Police are also preparing their presentations. The PYROS and ISET trade fairs will run until Saturday, 27 May 2023, when the Safety Day for the public will take place.

#### Looking back at 2021

Last year's IDET, despite the covid pandemic, was held in standard form at the level of previous editions, reaffirming its prominent position in the industry. Participants mainly appreciated the opportunity to negotiate and trade live, and highlighted the opportunity to meet face-to-face. The fair was attended by 496 exhibiting companies from twenty-seven countries, whose stands were viewed by 24,382 trade visitors. Members of official delegations from the territories of interest and representatives of foreign armed forces from thirty-one countries visited the fair at the invitation of the Ministry of Defence of the Czech Republic, the Armed Forces of the Czech Republic and BVV Trade Fairs Brno.

Latest info on the preparations for the fair is available at www.idet.eu.

## Ceska zbrojovka Highly advanced firearms fueled by 85+ years of experience

Ceska zbrojovka a.s. (CZ) is a Czech manufacturer of precision-engineered military and commercial firearms that are exported to more than 100 countries around the world. Founded in 1936, it initially produced firearms for domestic and international armed forces. Its product portfolio was later extended to include a wide range of domestic firearms. CZ became a joint stock company in 1992 and then joined the Ceska zbrojovka Group SE (CZG) in 2018.

#### State-of-the-art military firearms

CZ is a proud partner of many domestic and international armed forces, with an extensive portfolio of high performance military firearms that deliver rock-solid reliability. Its range includes striker-fired/hammer-fired service pistols, sub guns, select fire rifles, sniper rifles and grenade launchers.

For the technical design and development of its military firearms, CZ main-



tains close and consistent contact with top experts and members of elite armed forces to ensure CZ products remain aligned with the constantly changing demands of today's armed forces and the many scenarios they encounter on a day-to-day basis.

#### Cutting edge equipment and modern production processes

Contributing to CZ's global success is its commitment to the development and use of some of the world's most advanced manufacturing equipment and processes, which include robotics, fully-automated turning and milling centers, in-house cold hammer forging of barrels, and special CZ surface coatings that significantly extend the durability and life cycle of its products.

CZ is able to consistently produce worldclass products due to stringent quality controls that hold its people, machines and processes to the highest global manufacturing standards. This is achieved by implementing hundreds of inspections throughout the manufacturing process, which include lasers that measure tolerances to a thousandths of a millimeter. CZ's factory in Uhersky Brod, Czech Republic, is ISO 9001 certified.





info@msline.cz www.msline.cz For those who know

### COMPLETE MILITARY PROGRAM of Ceska zbrojovka a.s.

Comprehensive range of striker-fired pistols



CZfirearms

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## 17<sup>TH</sup> INTERNATIONAL DEFENCE AND SECURITY TECHNOLOGIES FAIR



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