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2018 highlights

- Subcontract to supply day vision sights to units of the Lithuanian army
- Special units of the Finnish army successfully tested and then ordered dozens of collimators for their assault rifles
- An expanded list of potential partners for collaboration in manufacturing, supplying and servicing electro-optical devices for new track vehicles of the Czech army
- Supply of new and service to existing optical devices for small arms and combat vehicles of the Czech army

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EDITORIAL

Dear readers,

In the last issue of this year, we have prepared a lot of interviews with leading state administration representatives, including a Deputy Minister of Industry and Trade, General Director of the Czech Prison Service, Director of the Public Order Police Directorate, Director of the Industrial Cooperation Department of the Ministry of Defence, and industry representatives.

The Czech defence and security industry is recognized and renowned worldwide, thanks to its history and high quality products and services. Leafing through just a few pages will dispel any doubts that anyone may have about this statement. And we are pleased that the number of companies which use our media to make themselves more visible is increasing.

This year was successfully concluded by a major domestic defence and security event, namely the FUTURE FORCES FORUM, and we have started preparing for the most important international fair of defence and security technologies in the Czech Republic, IDET 2019,

which will take place in Brno on May 29 to June 1, 2019.

As the event's principal media partner in the Czech Republic, we will traditionally publish the Czech-English IDET NEWS during the fair, the latest issue of which can be found at:



<https://msline.seethebrand.com/idetnews/2017/>

On behalf of our editorial staff, I would like to thank you for your cooperation in 2018 and wish you a lot of success, happiness, and above all good health in the new year of 2019!

Šárka Cook, Editor-in-chief



6



14



24

CONTENTS

Interview with Deputy Minister of Industry and Trade	6
Interview with Director of the Industrial Cooperation Department of the Ministry of Defence	10
MTI and CTU signed a cooperation agreement	14
Interview with the new Chief Executive Officer of RETIA	18
One billion was just the first step	24
SCIOX Security - Simple compact xray	26
Active radars from Pardubice	27
EXCALIBUR ARMY, part of the CZECHOSLOVAK GROUP	28
NCS College 2018 used AURA software	30

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Interview with Deputy Minister of Industry and Trade

Mr. Vladimír Bärthl



Sir, in our last interview you mentioned the fact that to achieve success in export companies must be very well prepared, must have ambitious foreign expansion plans and offer quality goods or services that are competitive. Can you evaluate the success of Czech companies in foreign markets in the past year? In particular, we would be interested in success of the aviation industry and the defence and security industry abroad.

From the export point of view those Czech companies active in aviation, defence and security industry were extremely successful. In the aviation industry exports grew by almost 47 per cent from roughly CZK 10 billion to almost CZK 15 billion in 2017. Exports to EU countries grew by almost 16 per cent, to non-European countries by 86 per cent. We do not have all the figures yet but we expect exports of avionics products was also very successful this year, as

evidenced by the fact that export in the industry grew by about 2 per cent in the first eight months. Similarly the last year in defence and security industry was also good for Czech companies. Exports of our products grew by almost 4 per cent in a total value of nearly CZK 11 billion.

Czech companies were traditionally successful in North America. They were involved in the supply chains of large foreign companies (for example Aero Vodochody was co-operating with Bombardier), they opened their branches in highly competitive markets (PBS Aerospace branch in Atlanta), they exported sports aircraft to foreign markets, they delivered solutions for airports and technology for space industry and they co-operated in R&D. The new generation of machines of from Aero Vodochody have interest from customers in Portugal, USA and Senegal. The civilian and military radars of ELDIS Pardubice have been successful in remote markets of Equatorial Guinea, India, and Indonesia. We see successful foreign investments in the Czech Republic from Bell Helicopters, Honeywell and GE Aviation that co-operate with ČVUT (Czech Technical University) on the development of a new turboprop engine. This is co-operation with high added value. Czech exporters are also exploring Latin America. Aero Vodochody in Brazil successfully co-operates with Embraer.

It is not a secret that you are a lover of aircraft and also a pilot and you are a big promoter of Czech brands. And we also know that you use this hobby for your business trips. Can you tell us more about this?

You're right, I keep the private pilot certificate obtained in Canada and later enhanced in Europe. I was indirectly brought to flying by my father, now he is 82 years old and still active pilot (also an author of

beautiful aerial photographs!) operating at his home airport in Teplice. I do not remember when I decided to combine these pleasure with useful activities using the sport aircraft for my business trips abroad and thereby promoting our aircraft manufacturers. But it is not just aircrafts that I used, I was testing a prototype of Jawa motorcycle Vintage 660 on my business trip to Bratislava, I really enjoyed it. But back to aircraft, as far as I know, the Finnish Prime Minister is also a pilot and he flies by a small plain on his business trips but he doesn't use the domestic production aircraft. We managed to promote Czech ultralight aircraft during my flight to Luxembourg on EU Council meeting, I flew to the Farnborough Airshow in Great Britain using a traditional Czech aircraft made by Zlín Aircraft company. I flew the same aircraft on my business trip to Competitiveness Council in Tallinn during Estonian EU presidency. On both trips I had the privilege of safety pilot assistance assured by Mr. Korběl, the legendary Czech aerobatic pilot. And I was happy to promote Czech aircraft Zlín during my trip to informal meeting of trade ministers in Innsbruck. I think this is a good way to show confidence in light and ultralight aircrafts coming from Czech production, to show these plains are suitable for recreational flying as well as for business trips to prestigious multilateral events abroad. The response from foreign business partners and also from Czech companies of aviation production sector is quite positive, Czech companies appreciate this way of active state support.

The United States of America has been the largest Czech business partner outside the EU for several years. In 2017, exports from the Czech Republic to the USA reached almost CZK 88 billion, with the main export items being jet engi-



MESIT

nes, turbines, pumps and weapons and ammunition. In March, the US introduced new tariffs on steel and aluminium. Will this situation have an economic impact on Czech companies and the economy of the Czech Republic?

Yes, this situation has a negative economic impact, and we therefore consider the steps of the United States regrettable. Such protectionist measures limit the benefits of global trade and have a negative impact on both exporters and consumers. Nevertheless, the United States remains an important partner, our main non-European export destination, and we are trying to address the situation. In June of this year, the US Administration imposed customs duties on steel and aluminium in the range of 25 % for steel and 10 % for aluminium. The EU responded by imposing customs duties on US imports of EUR 2.8 billion. At the same time, this dispute is being resolved in the World Trade Organization, as we consider US duties to be a violation of WTO rules. When looking at specific impacts on Czech companies, these duties relate to a direct Czech export of steel products in the amount of USD 200 million per year, and in the case of aluminium in the amount of USD 10 million. The Czech export of these affected items represent less than 10 % to the United States but other exporters mainly delivering to the US market are also negatively affected. The impact on them will be much more pronounced. This is very negative and Czech companies are influenced by this situation. However, we have information that some Czech companies have taken the opportunity to apply for

individual product exclusions which is the only way to avoid these measures. Even if we assume that the impact of the new US tariffs on total Czech exports will be marginal, we want to fully stabilize our relations with the USA. We support the constructive dialogue that takes place at the European level with the United States which started in July when the European Commission President Jean-Claude Juncker and President Trump met.

But let's stay with the aviation industry. Our Review magazine will participate in LAAD Brazil or Paris Air Show in France next year. Which countries are the largest buyers of Czech products and related services and in what way did the Ministry of Industry and Trade of the Czech Republic support the aviation industry within its field missions this year? What do you plan for 2019?

Our products, especially weapons, ammunition, defence systems and military equipment, have traditionally been acknowledged worldwide. With these commodities, we are undertaking territorial diversification, so 60% of our exports of these products are distributed to non-EU countries. Within the EU, we mainly export to Great Britain and Spain. In Europe to Switzerland or Russia. Significant export territories in the aviation industry last year to non-European countries included the United Arab Emirates and the United States, followed by Iraq, China, Brazil and Indonesia. This year we have been successful in the United States, the United Arab Emirates, Brazil, Iraq, Kenya, Pakistan and Israel.



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The Ministry supports Czech defence industry exporters in broadscale of their activities.

In April 2018, we participated in the organization of a business conference titled 'Czech Air Force' in Moscow. In June, the Czech-Ukrainian intergovernmental commission met with representatives of the Ministry of Defence. In September of this year, the Minister took an important business mission with defence sector companies to Azerbaijan and Georgia. As part of the Aid For Trade program, a development co-operation program under the auspices of the Ministry of Industry and Trade, we implemented a project to improve the services of a new airport in Ulan Bator. Within this project we promoted specialised seminars that took place in Mongolia in May with the participation of Czech experts and we organised a mission from the Mongolian Civil Aviation Authority to the Czech Republic in September. We organised an incoming mission of the aviation industry from Canada and the USA to the Czech Republic in March. In November 2018, Czech companies took part in the Toronto Air Summit.

As a part of the Czech official participations in international fairs our Ministry supported the Defence Services Asia Exhibition and Conference in Malaysian Kuala Lumpur in April 2018, the EUROSATORY Defence Exhibition in Paris in June and the world's most important airline fair in Farnborough, UK, in July 2018. In 2018 two NOVUM KET projects of the CzechTrade Agency co-financed by the EU were held: AERO 2018 Friedrichshafen and Expo Air 2018 Munich. The CzechTrade Agency also organized a commercial presentation of joint stands for Czech companies at FIDAE 2018 in Chile, International Marrakesh Air

Show 2018, Aeromart Toulouse 2018 and China Aviation Exhibition Zhuhai 2018.

As for the events planned for 2019, the CzechTrade Agency plans to participate in the FAMEX trade fair in Mexico and at the AERO 2019 fair in Friedrichshafen in Germany, the Ministry prepares for Czech official participation at the IDEX Arms Trade Fair in Abu Dhabi in February, the Paris Air Show 2019 at the Le Bourget Exhibition in Paris in June, the aviation fair MAKs 2019 in Moscow in July and the DSEI 2019 Defence Trade Fair in London in September. We also prepare, in co-operation with the Ministry of Foreign Affairs, projects for the promotion of economic diplomacy, i.e. PROPEDs on aviation, the AéroMart Air Mission in Canadian Montréal, participation in the Air Venture Small Sport Aircraft Trade Fair in Oshkosh, the airline presentation in the Russian Federation and the Incoming Mission from Embraer. In August 2019, we would like to repeat the successful business conference 'Czech Air Force' in Moscow and organize its continuation in co-operation with the MAKs Fair.

What will be the role of the Ministry in drawing on the European Defence Fund? Is it possible to consider the co-financing development projects of EDF from the Ministry funds (will EDF finance for example 20-50 %)?

The European Defence Fund will become fully operational by 2021. It will connect with the European Defence Industry Development Program (EDIDP) which will be launched in 2019.

EDIDP has three priority areas and the challenges will be separate for 2019 and 2020. The program operates with funds of EUR 500 million. The level of EDIDP fun-

ding ranges between 20 % and 90 % but the funding rate can be increased by 35 % up to 100 % through bonuses.

The draft regulation on the EDF was presented by the Commission in June 2018 with the approval by the European Parliament being scheduled for the first half of 2019. For EDF, the same co-financing model as for EDIDP is envisaged.

In view of these facts, it is too early to consider co-financing of projects by the Ministry of Industry and Trade. In addition, the European Commission plans to evaluate the EDIDP program and intends to use the conclusions in EDF. To be honest, we would rather wait a little bit for the reaction of the companies involved in specific projects.

At the beginning of October the 60th International Engineering Fair took place in Brno and the Minister of the Ministry of Industry and Trade signed a Memorandum on Shared Business Support with Representatives of the Czech Team. Could you introduce us to this platform?

The Czech Team was established as an initiative of state institutions that are engaged in supporting business, innovation and providing export support services. The aim is to create an integrated system of state assistance at all stages of the business circle, from idea to development, from investment to internationalization and thereby contribute to creating a favourable business environment that will help to make the Czech Republic a technological leader in production of products and services with higher added value. Each member of the Czech Team provides Czech entities with a set of services. Within this platform it is important to link and complement these services together and deliver greater business success. This co-operation will also contribute to better information on assistance and access to R&D and innovation support services, business development, export finance, investment and internationalization of firms. I personally welcome the establishment of the Czech Team mainly because I understand the pro-export policy in a broader context than just as some help to our exporters abroad. The Czech Team fulfils this wider concept.

Mr. deputy minister, thank you for the interview
Šárka Cook



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Adaptation of domestic products to needs of the Czech Armed Forces

is an important requirement which can be met by maintaining regular contacts and exchanging information between the military and the defence industry, says, PhDr. Tomáš Kopečný, Director of the Industrial Cooperation Department of the Ministry of Defence of the Czech Republic.

Mr. Director, your primary agenda is the defence industrial cooperation. What is the current situation of the Czech defence industry and what challenges, in your opinion, is the Czech defence industry facing at the moment?

The Czech defence industry builds on its long-standing good reputation backed up

by high quality of its products, professional approach to customers, and advanced technologies. Aggregate figures of exports of defence equipment, which have been growing significantly since 2014, prove that Czech companies can find a place in international markets. The greatest challenge is, in my opinion, to maintain this trend in the environment of a global defence market

dominated by defence industry giants from Europe, but also, for example, from the United States or Israel. In this respect, the Czech companies can deal with this situation by joining suppliers' chains of these big players, or by consolidating into larger consortia, whether national or international, while complying with all principles of security of supply for the Czech Armed Forces.

What is, in the opinion of the Ministry of Defence, the importance of the Czech defence industry for the operational readiness of the Czech Armed Forces?

The defence industry of the Czech Republic is the cornerstone of material support of our Armed Forces, as it supplies a lot of indispensable military systems and equipment. On the other hand, our defence industry does not possess research, development, and industrial capacities and capabilities enabling it to meet all requirements of our Armed Forces, which fact is most obvious in so-called principal military systems, such as main battle tanks, fighter aircraft, or helicopters. However, it can provide a steady supply of high-quality defence equipment and materiel, from small arms and ammunition to passive surveillance systems or trucks, and thus guarantee secure and reliable deliveries, which are vital for maintaining operational readiness of the army both in peacetime and even more so if there is an impending threat or in the state of war. Adapting domestic products to needs of the Czech Armed Forces is an important requirement which can be met by maintaining regular contacts and exchanging information between the military and the defence industry. In this respect, we fulfil an important role as organizers of so-called industrial or technological days.



At the NATO Days in Ostrava



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A meeting with the Minister of Interior of Ivory Coast

The so-called European defence industry base is often mentioned in connection with the implementation of the Common Security and Defence Policy of the European Union. What are today's trends in Europe in this respect?

Step by step, Europe becomes increasingly aware that the responsibility for its defence rests more and more on her own shoulders, which is something that the US President Donald Trump has openly and repeatedly emphasized. However, it is in fact an appeal that has been repeated by various US administrations since some fifty years ago. The European defence industry is lagging behind capacities of the United States in some key technological areas, in particular in that of defence research and development. One of the goals set by the Global Strategy of the European Union is to revive the European defence industry after years of stagnation and to increase the funding of defence research and development in order to make the Union less dependent insofar as creating and maintaining defence capabilities are concerned.

The European Commission, which is the principal driving force of the strengthening of collective defence capabilities of the European Union, has been repeatedly urging EU member states to join cooperative projects in order to make defence spending more effective and to avoid duplications in the development of defence capabilities.

What is the purpose of the so-called European Defence Action Plan (EDAP), or the European Defence Fund, which is a part of EDAP?

The European Defence Action Plan is expected to support investments into small and medium-sized enterprises, start-ups, and other suppliers of defence equipment and materiel. Another purpose is to strengthen the common defence market, support trans-border cooperation of companies, and help member states acquire defence equipment for the most favourable price through a common defence equipment procurement system.

The European Defence Fund is a tool which will allow consortia of defence companies all over the European Union to obtain co-financing for cooperative defence research and development projects. The basic requirement for this unprecedentedly generous defence co-funding and funding scheme is the establishment of a consortium consisting of at least three companies or research organizations from at least three EU member states.

A sum of € 90 million has been allocated to support of defence research until 2019; that allocated to defence development is € 500 million. Categories have been created for various projects eligible for EDF funding, most of which match key areas of defence technologies where the European Union has identified deficiencies or whose development is, in the light of priorities set in the Capability Development Plan.

How much are Czech defence companies interested in joining the EDAP initiative?

The Ministry of Defence, which guarantees and coordinates the Czech participation in the EDF programme, has hitherto recorded 13 international projects led by Czech de-



fence companies, which are presently being prepared. The Industrial Cooperation Department regularly informs domestic defence companies about current developments related to the European Defence Fund. Even if our projects do not succeed, we believe that the participation of Czech companies in the 2019 and 2020 programme will bring valuable experience which Czech companies will be able to make use of in the "second round" of the EDF programme from 2021 to 2027, for which an allocation of € 13 billion is expected.

In addition to the EDF, there is another important defence integration initiative, the Permanent Structured Cooperation (PESCO). How do you regard this initiative from the viewpoint of its contribution to further strengthening of defence capabilities of EU member states?

We view PESCO as an important initiative that should bring an increase in operational capabilities of EU member states and improve interoperability of their armed forces. In the second tranche of PESCO project, the Czech Republic has proposed a project focused on electronic warfare, which is one of the main areas which the Czech Armed Forces excels in. The importance of the Permanent Structured Cooperation lies in the fact that the initiative is mostly based on real experience, lessons learned during previous military exercises or the deployment in international missions, and the initiative should eliminate operational deficiencies identified from the previous experience and improve related capabilities. In addition, PESCO projects target areas which are becoming increasingly important from the

viewpoint of defence, such as protection against cyber threats, naval reconnaissance, or unmanned aerial vehicles.

What is the relation of EDF and PESCO to the international cooperation within the North Atlantic Alliance? Isn't there a risk of duplications between cooperative projects of the European Union and those of the Alliance?

Tools of the European Union, such as EDF or PESCO, are not supposed to replace or duplicate the cooperation of European states under the umbrella of the NATO. On the contrary, results of these initiatives will help improve the ability to act, interoperability, and level of technological advancement of forces deployed by the Alliance. A typical example is a PESCO project focused on mobility of forces, the purpose of which is to facilitate and speed up trans-border movements of armed forces across Europe by eliminating physical or legislative obstacles. At the end of the day, the Alliance will thus be able to react to potential emergencies more flexibly and more rapidly, as the speed of movements is a key prerequisite for an effective conduct of military operations. Apart from such situations, the initiative will facilitate, for example, movements of forces of different countries from their permanent bases to international exercises.

On November 13 in Strasbourg, the French president Emmanuel Macron and the German Chancellor Angela Merkel emphasized the possible formation of a "European army". Are the EDF and PESCO initiatives initial preliminary steps toward the formation of such a "European

army", or are they different matters altogether?

As a matter of fact, the European army is a rather vague notion, and the time has come to explain and clarify it. If not for any other reason, then because of its recent frequent use by and appearance in the media. The issue of the formation of a common European fighting force is a very complicated matter which has been evolving in time. The military aspect of the Common Security and Defence Policy of the European Union (CSDP EU) is fairly clearly defined in the so-called Petersberg tasks dating back to 1992, which have undergone only minor changes since then. It still holds true that territorial defence issues are primarily dealt with by the North Atlantic Alliance.

The sovereignty of decisions concerning the development and use of armed forces remains exclusively in the hands of member states. And those which are members of both the Alliance and the European Union declare their capabilities to meet specific goals of collective defence fairly clearly in the NATO joint planning process. The strengthening of interoperability and the ability of armies of different member nations to conduct common operations under the Common Security and Defence Policy of the European Union is definitely desirable, but we should not find ourselves in a situation in which such initiatives would substitute the role of the North Atlantic Alliance as the primary collective defence organization in Europe. If for nothing else, we should not use established terms to produce false hopes about what to expect from each organization. Although EDF and PESCO are significant steps on the road toward a deeper defence integration of EU member states, their objective is not to lay the groundwork for the formation of a "European army"; their purpose is to help develop the European defence base and assist EU member states in the implementation of cooperative defence projects in selected areas. This must be emphasized all the time. The European Union does not have across-the-board ambitions; it focuses on sectors into which it is worth investing, whether for security reasons or from the viewpoint of maintaining and developing global excellence.

Mr. Director, thank you for the interview.
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Military Technical Institute and Czech Technical University in Prague signed the Framework Memorandum of Cooperation

At the International Forum for Trends and Technologies in Defence and Security FUTURE FORCES FORUM 2018, held in October, the director of the Military Technical Institute (MTI) Mgr. Jiří Protiva, together with the Rector of the Czech Technical University (CTU), Associate Professor Vojtěch Petráček, signed a cooperation agreement.



plementation is a consequence of the new NATO legislation and subsequent requirements of the Czech Armed Forces. Basically, it is a modernization of operational-tactical command and control systems in order to provide new functionalities to support the management and decision-making processes of commanders and staffs in field conditions. Since most of these systems come from the MTI's workshop and are a complex adjustment of these systems, the role of MTI as a system integrator with clear added value is offered. I am pleased that cooperation with the Ministry of Defence or the Czech Army is in this case dealt with a framework contract with a set process of partial orders for a longer period of time, namely until November 2023, which will allow the MTI to better plan its activities both from the commercial view of point and from the term of earmarking the required professional capacities.

Mr. Director, can you more specifically clarify what the cooperation will be about?

By coordinated and closer cooperation with CTU in Prague we enter into the memorandum concluded between this academic institution and the Ministry of Defence. MTI in the long term involves the academic sphere, including of CTU, in scientific projects and conducts expert seminars on specific topics. However, there was a lack of here, say, a top management line and greater interconnection between all study programs and branches of CTU and branches of MTI. This is why we have signed the Framework Memorandum of Cooperation with the Rector this year, addressing the development of defence technologies, the means of ensuring data and information security or protection against cyber threats. Within the mentioned FFF 2018, we have subsequently concretized cooperation at the development and testing of mobile protective barriers in order to of-

fer and deploy these resources not only in the Czech Armed Forces but also in other security forces. I consider the linking of the MTI's capabilities with the civilian and academic spheres possibilities for crucial at the implementation of development projects. One of the ways is the practical synergy of military aspect represented by the MTI and scientific knowledge introduced by the CTU.

At the end of October, the Minister of Defence submitted to the government information on 4 public procurement in the overall price of 4,7 billion CZK. One of the procurements was a Framework agreement between the Ministry of Defence and the MTI, for subject on development the operational tactical command and control system of the Ground Forces of the Czech Armed Forces to fulfill the capabilities of Federated Mission Networking (FMN). What exactly is it about?

The conclusion of the agreement, or its im-

We were very surprised that one of the specialized departments of the branch of the MTI of the Ground Forces in Vyškov is the Diving Technics Testing lab. Thanks to its technical equipment, it can practise both certification of respiratory equipment and a wide range of tests and measurements of personal protective equipment for divers. Another area of interest is the testing lab of special systems and fuel economy, which deals with tribotechnical diagnostics of diesel engines, transmissions and hydraulic systems using FTIR or AES/RDE spectroscopy. What is the number of testing labs that the state enterprise actually has and what is tried in other MTI branches?

Testing, as one of the professional capabilities blending with all three branches, is one

of the fundamental domains of our work. Not only because we can submit our own research and development outputs, but also through the possible offer of accredited testing for government services and civilian industry at national and international level. The company has three accredited testing laboratories at individual branches, namely Testing lab No. 1220 for Rescue and Parachute Techniques Tests, Vehicle Tests No. 1103 and No. 1128 for Testing Weapons, Explosives and Ballistic Protective Means. Within these laboratories, there are included 12 specialized testing labs for example Electromagnetic Compatibility lab and Diving Technics Testing lab which was expanded this year with marine equipment tests or trials on the so-called 3D wall for seismic and mechanical resistance tests. Trial engineers, in addition to classical tests on one or another technics, also participate in the processing of various studies, drawing on current technical and technological trends and proposing optimal solutions for the evaluation or renewal of defence systems and technology.

In September 2018, a seminar on novelties in the area of standardization, quality verification and certification of defence products took place at the Ministry of Defence. There was a discussion of the new measures taken by the department of the Defence Standardisation, Codification and Government Quality Assurance Authority, which will allow certification of products to support export at entities of the Defence and Security Industry Association. One of the certification authorities is the MTI, which keeps a mandate to exercise state authority in



The kit for management of helicopters take-off and landing

fields of its competence. Could you specify this authority?

At the end of 2017, the MTI obtained an official mandate from the founder to perform a national authority in the areas entrusted to it. The authorization is based on the state enterprise law, on the purpose of establishing the enterprise described in the charter, and especially on the specific expertise competences which we offer. These are areas according to individual STANAGs such as the B10 group of arms or B23 hovercrafts, motor vehicles, trailers. The National Authority Statute has two levels for the defence and security industries. The former expresses cooperation with the defence department, or the Defence Standardisation, Codification and Government Quality Assurance Authority in the assessment of technical specificati-

ons and conditions. The second is significant added value to the Czech defence industry. The MTI assists civilian entities in cases of need to verify compliance with NATO standards at newly developed technology, which is intended for export and is not introduced into the use of the Czech Armed Forces. The certificate of the state testing laboratory or national authority replaces for foreign markets a reference of implementing of the technology by domestic armed forces.

If we sum up the year 2018, what has been achieved and what is the company most proud of? What are you proud of, Mr. Director?

The year 2019 is characterized for the MTI by the realization of key procurements, especially from the founder. The range of customers from the state sphere and their requirements is expanding, we realize particular cooperation, for example with the Administration of State Material Reserves, the Customs Administration, the Prison Service, the Czech Trade Inspectorate or self-governing units. The volume of projects and their intensity is increasing and the MTI adapts personnel capacities, project management and technological background. The year 2018 shows commercially as another year of positive economic results, again in all three branches separately. We can be proud of the stable position of the company and its practical importance in the structure of the Czech defence industry, fulfilling inter alia the bridging role between state and commercial sector in the implementation of system integration or supporting tasks



Multipurpose armored vehicle with Iveco-ISR reconnaissance superstructure



Trial shooting range Bzenec

in the processing of studies, participation in evaluation processes or testing itself. I'm proud of it that if you look at any military unit or military facility within the structure of our main customer, everybody uses at least in some measure some technology from the production of the MTI.

What plans does the company have for the year 2019 and beyond?

In previous replies, I have touched on defence research and development, testing, national authorities, system integration, and support for the implementation of acquisition processes. These are the factors that put company in a qualitatively different position. Not only the interconnection of the capabilities of all three branches, but also the development of the abilities mentioned above is one of the goals for the next period. This, of course, be in accord to keep with the positive economic development that is the basis for fulfilling the desired ambitions. The aim is to remain an attractive employer, a reliable partner with clear business integrity and a desired subject for research, development and testing across the state administration in the framework of the implementation of vertical and horizontal cooperation of state institutions.



Reconnaissance and observation set



Medical Containers for missions

Photo: Pavel Lang, Jan Vachek and MTI



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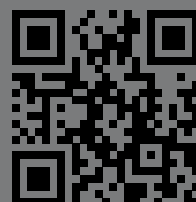
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An interview with Roman Bohunek, the new Chief Executive Officer of the Pardubice-based RETIA

Since July 2018, Roman Bohunek has held the position of Chief Executive Officer of RETIA in Pardubice. He previously acted as Director of Special and Industrial Systems. Roman Bohunek has been connected with RETIA for a very long time, so we asked him about the changes the company has undergone over time, as well as what is currently going on and what lies ahead for the company. This autumn, RETIA is celebrating 25 years of its existence, and it is only fitting this should be celebrated at this year's NATO Days in Ostrava & Czech Air Force Days. Moreover, RETIA has recently become part of the newly established CSG AEROSPACE, which is now the largest Czech company operating in the field of aerospace, radar systems and avionics.



You joined RETIA in 1997 right after your army service, and you have never left it. Such loyalty is not common today. Why have you stayed with a single employer for so long?

The reason is fairly simple. RETIA has managed to offer me new challenges, especially in the field of information and communication technology, which was my primary focus during my studies at Czech Technical University. In our company, career growth has been an important factor for me. I started out as a development assistant, then I went on to become a development worker and later the head of the department. All the

while I was able to move up and take on new challenges related to the position I was in.

How did you actually get to work for RETIA? Did you respond to an ad or did you have information from your acquaintances? What did your admission to the company look like?

I and actively sought work here in Pardubice, in my native region. I did not want to stay in Prague after school, I knew I wanted to come back. I contacted several companies, and after a while, I chose RETIA. I completed several interviews and was given a choice between the civilian and the military area, for which I finally decided.

Can you compare RETIA as it was twenty years ago and what is it now?

Of course, the company has changed. However, the important thing is that the environment in the society, in which it operates, has changed. Therefore, RETIA has to adapt to new trends and technological developments, customer requirements, partners etc.

Let's look at how RETIA itself has changed. I joined the company when RETIA had about 40 employees. Now there are 250. A big change is also the change of the owner and the resulting close cooperation with the CSG holding, thanks to which we have

new connections not only within the group, but also externally. Finally, it is worth mentioning that the customers themselves are different than before – more sophisticated, demanding and precise.

In your person, an expert involved in a number of development projects has become the leader of RETIA. Can you briefly describe them?

Since I studied communication systems at university, from the beginning I established myself in our company mainly in the area of command and control systems. I started out solving hardware system issues, first of individual blocks, and later larger units. The first projects I participated in were, of course, of smaller scale. For example, I was working on upgrading the S-10M2D anti-aircraft rocket to integrate it into the RACCOS Command and Control system that we delivered to the Czech Armed Forces. Later, I worked with the RACCOS hardware system, which was a very important stage for me, as I was taught by Miroslav Kubík, the head of the project, who was and is a great role model and authority to me. I would like to thank him in this way for everything he taught me and for the course he set me on. Then I was the leader of independent management projects. I consider working on the ReVISOR system as my peak, which was the moment I joined the radar part of RETIA. This is a comprehensive system involving both radar and

combat command and control. The result of this project is the delivery of six pieces of the ReVISOR system to the Czech Armed Forces, and we hope to deliver two more pieces. That's how I got to work with radar systems as such, and it was a great experience for me.

Which way is the development of command and control systems headed? How did the soldiers share information, say, twenty years ago, and how does this process look today? What will the sharing of information and command look like ten years from now?

Over the past twenty years, we have seen the trend of digitization and the emerging dominance of data connectivity. We are witnessing a move from voice communication, which was previously dominant, to data communication, which is now seen as the main backbone communication network. Nevertheless the voice communication remains an important part of the command and control systems. Another trend is undoubtedly the automation of systems and suggestions methods recommending commanders how to optimally solve a firing task. However, the final decision is left to the commander, even though fully automated systems that operate independently without human intervention are beginning to appear. We will meet more and more often with such systems in the future. In addition, we can mention the attempts to unify the indi-



ReVISOR - complex system composed of short range radar and command and control system.

vidual data interfaces to allow or simplify the connection of different systems of different allied armies. Great emphasis is put on ensuring that all systems have defined a standardized interfaces.

Where is radar development headed? For example, will 3D radars replace 2D solutions?

The trend is clearly towards 3D, so that the system acquires information about the target including the direction, distance and altitude of its flight. On the other hand, there are systems for which 2D technology is absolutely sufficient. However, there are other trends too. It is not just about spotting the target anymore, it is also about its classification. In short, today, radar systems are required not only

to determine the location of the target, but also to identify its nature and, where appropriate, the risks it may pose.

How important are the ReDat recording systems for your business? What are you planning regarding this system?

ReDat has always been an integral part of RETIA's portfolio. It belongs to the civilian part of our production, and we want to continue to develop and supply the recording systems, which are an important part of our business. As far as what's new, it is a result of the technological trends and requirements of our customers, as well as the safety requirements and, of course, the competitors, who never sleep. The news in this area include, for example, ReDat's cloud service integration, which makes it simple and easy to share real-time data between different devices. However, the customers do not always accept the novelties automatically, as some might think. With cloud services, for example, some are concerned about the security of their data, of course. Convincing them of the benefits of new features and properties, as well as the qualities of new ways of securing ReDat, is part of our business, as well as our system development. The ReDat system is developing a number of other innovations, such as the recording of non-spoken communications, the growth of which we can see in everyday life, the evaluation of recorded data, validation, reporting and so on.

How does your company recruit new employees and what can you tell us of the skills and abilities of today's up-and-coming engineers compared to when you started in your field? What are their strengths and weaknesses?



SURN modernization - complete modernization including surveillance and guidance radar.



RL-3D radar - we are working on the 3D radar product line for ground air defence.

Just like everybody else, RETIA faces the problem of lack of qualified professionals. We are trying to solve this problem. At the moment, this is a nationwide trend. The Pardubice region is a hatchery of radar technology experts, and there are also several companies that operate in this field. Therefore, it is quite difficult to find new specialists. We strive to keep staff fluctuation very low. The integration of an employee into processes in the company takes several months. We address the issue of the lack of qualified and skilled specialists in the labour market through contacts with schools, for instance. We are now working closely with secondary schools and universities, where we try to get students interested in internships or part-time jobs with us. Ultimately, we want them to become full-time employees of our company. As far as today's young generation is concerned, it is undoubtedly different from ours. Of course, young people have more options, but it is more difficult for them to find their way in this overwhelmingly complex world. It is also more important to them to have time for their private lives. Simply put, in terms of their careers, that they have the skills and potential necessary in the field, and they also have a clear idea of the height of their starting salary, which does not always translate well into the real world. They have a much less clear idea about their professional lives and where they want to go.

What is the state of RETIA's own 3D radar project?

For a start, I would like to point out that there is more than one 3D radar development project in our company. In fact, we are heading towards a 3D radar product line with a similar concept, covering areas from a very short range to a long range, or eventually

a very long range. One of them is ReUNION (the working name for the radar which RETIA offered to the Ministry of Defence of the CR as a joint Czecho-Slovak project in 2015), on which we have worked before and continue to do so. The second radar we are currently working on falls into the category of detection of low-flying and small-dimension targets and battlefield surveillance technologies.

Is your modernization program for older anti-aircraft KUB systems still continuing? Is there still demand in the world for such modernization projects?

KUB is a very interesting system for us. We modernized such units for the Czech Armed Forces years ago, so we can talk about a successful implementation of the project. However, the Czech Armed Forces plans to retire these units in a few years, replacing them with completely new systems. We would also like to be involved in this process. We have the necessary capabilities. However, as it has turned out

over time, the modernization of the KUB systems is also of interest outside of the Czech Republic, both east and west. In the east, many countries use post-Soviet systems and are considering modernization, so there is room for us to apply our technology solutions and negotiate with potential customers. These are typically countries that do not currently have funds for all-new anti-aircraft units. Customers in the West, in turn, buy Eastern systems for training purposes, and we are able to offer upgrade packages or customizations according to their requirements.

Is there a chance of using the ReVISOR short-range radar even outside the Czech Armed Forces? Are there any purchase orders on the horizon? It is often said that referrals from the domestic armed forces are key to acquiring foreign customers.

Such possibilities are currently presenting themselves. You are absolutely right that it is virtually indispensable to have referrals from domestic armed forces to participate in foreign tenders today. Every potential customer asks about the deployment of a proven system, introduced in the domestic armed forces. We have delivered ReVISOR systems to the Czech Armed Forces in recent years, and we have domestic army referrals that are very positive, which of course helps us abroad. ReVISOR is designed for short-range air defence systems, such as the RBS-70, used by the Czech Armed Forces. Now we are negotiating with potential customers who use this system, as well as other anti-aircraft systems, for which they currently have older detection means.



ReDat - special systems for recording, analysis and management in the field of dispatch centres, contact centres and ATM/ATC segments.



ReTWis - unique small portable radar detecting living entities behind a wall or a non-metallic barrier with the radar range up to 40m.

What is the status of the ReTWis through-wall radar program? Did you find customers for it? And what is the practical experience with its use?

Abroad, the ReTWis radars are used by security forces in Egypt, we have delivered them to Thailand, but of course also to the Czech Republic, and to a lesser extent to Indonesia or Vietnam. We keep in touch with our customers and communicate with them on a personal level. We show them what they can expect from the radar, how to handle it and work with it. It is necessary to learn to read from the monitor and to properly evaluate the information. Today, customers require top-of-the-line performance, miniaturization, easy handling, connectivity to communication systems and other devices. The latest 5th generation of ReTWis meets such requirements. Of course, we will continue to develop this concept so that we always have a lot to offer. We are one of the few companies in the world to develop and produce this kind of radar. There are potential customers who do not yet know that such a product exists. That is why we are acquiring our customers primarily through an active business approach and we are glad that they are both civilian and military.

RETIA has a unique experience from working on the prestigious Alliance Ground Surveillance (AGS) project of the NATO. What did the company learn through this project? Does it also help with other contracts and customers?

Working on the AGS NATO project was a great experience for us. It is one of NATO's major projects at present. We worked for the North Atlantic Alliance, a customer who was in a completely different category than the vast majority of those we had encountered earlier. The leaders and representatives of the AGS project knew exactly what they wanted, and various processes and co-

operation rules between the participating firms were strictly defined. From the point of view of the AGS system, our contribution was part of a larger whole. We developed, manufactured and supplied several special MGEK mobile workstations equipped with electronic systems that serve AGS operators to monitor and evaluate data from UAVs. It was a very important project for us. Thanks to AGS, we now have experience with international technology collaboration with the best European companies in the field of advanced special electronics and electrical engineering. We had to demonstrate, along with our technological capabilities, the ability to work in NATO's project management environment, including reporting and transparent management of funds. Of course, participation in the AGS project is also an essential referral for us.

What are your priorities as the CEO of RETIA?

I would summarize them in two basic points. Above all, I would like to maintain and develop our status of a company focusing on development and technologies, a company that has its own research and development and offers its customers products of the highest technological level.

I want to further develop RETIA especially in the following areas: military active radars, military command stations, complex systems, UWB technologies and recording systems. The second priority is the functional integration of our company into the CSG holding structure, or more precisely, its newly established CSG AEROSPACE division.

For most of its existence, RETIA was an autonomous company. Today it is affiliated with a large CSG holding with a turnover of billions of Euros and is now part of CSG AEROSPACE. What are the advantages of membership in a larger corporate family?

RETIA has a lot to offer to the holding. We have capabilities not only in the field of radar technology, but also in command and control systems, recording systems and UWB technologies. We have the capabilities to integrate all kinds of special electronics, design and manufacture complex systems. Cooperation with CSG brings to us new possibilities and allows access to other areas. We are cooperating, for example, on installing electronic systems into the new Pandur II command and communications vehicles for the Czech Armed Forces, which will be supplied by TDV, another company from the holding. With MSM Group, the Slovak part of the CSG holding, we plan to cooperate in the development of the already mentioned 3D radars and so on. Cooperation with CSG AEROSPACE provides RETIA the opportunity to collaborate with companies of a similar kind. It means companies that focus mainly on research and development. For RETIA, it is very interesting and beneficial to cooperate with ELDIS, which has also been in the business of radar technology for years.

Thank you for the interview, Šárka Cook.



RACCOS - command and control system processes air picture data, the distribution of targets and the impact on individual targets.

DJI AEROSCOPE



monitors 2.4 GHz and 5.8 GHz user bands and is capable of detecting self / foreign traffic in the detection area. As part of the detection, all necessary data are identified to identify the unmanned airplane and its operator. This is primarily the GPS position of the operator, the GPS position of the drones, the altitude, the direction of the flight, the speed, the mark and

expanded without restrictions, even in a geographically complicated or poorly transmitted signal environment, you can efficiently cover the entire area without any limitations. The DJI AEROSCOPE system is capable of integrating into other systems as a modular part.

All of the scenarios described above were practically tested with positive results. One example is the installation of the DJI AEROSCOPE system as part of the protection of Václav Havel Airport in Prague.

We also use the mobile part of the system to protect large social events from unwanted UAV traffic. Here our operators are able to uncover an unknown UAV and pass this information in real time to the state authorities for immediate intervention.

Since DJI Aeroscope is not freely available to end users, the possibility of its use for unfair purposes is largely eliminated.

We can safely say that in our region (Czech Republic and Slovak Republic), our company has the most experience and the number of successful installations.

For more information, please contact us via e-mail telink@telink.cz

With the sale of civilian drones, more specifically, UAV / RPAS systems are increasing the extent of their civilian and military use, and thus the fears of state authorities and civilians against their abuse.

In principle, the Government has two legal instruments. Regulation or repression. In the Czech Republic, the UAV / RPAS Traffic Regulation is part of aeronautical prescription with a mark L2.

The rules outlined in Appendix X apply to hobby and professional use of unmanned aircraft without exception. The rules set out in Appendix X to this Regulation apply to hobby and professional use of unmanned aircraft without exception. The enforcement of these rules is entrusted to the Civil Aviation Authority (CAA), which also grants a permit beyond the scope of this regulation if required to use unmanned aircraft. In case of violation of these rules, the CAA only option. Retroactive punishment, which of course does not prevent the damage. As for other cases, prevention and proactive protection are the better option, especially for those who operate a critical infrastructure. For example, we can protect state buildings, airports, places with a high concentration of people such as Cultural Events and Assemblies.

The **DJI AEROSCOPE system** is designed to detect DJI drones in the range of 5-47 kilometers depending on the configuration used (mobile or stationary). DJI Aeroscope

the model, the serial number etc. All of this information is available in real-time and can be used to respond immediately to such a threat or as a basis for further legal action in cases where the operator is not caught.

Detecting unknown traffic is not the only way to use this system. The DJI AEROSCOPE system can also be used to coordinate the operation of its own unmanned aircraft in the area or combine these two scenarios. I see my UAV and I am able to coordinate with each other and at the same time see a foreign UAV that I can safely avoid or oppose against them. In these cases, it is a tremendous advantage of this system that it does not require additional installation of additional devices, whether TCAS or ADS-B (Automatic Dependent Surveillance - Broadcast).

The **DJI AEROSCOPE system** is able to operate either independently or in groups with multiple detection points, and the data to be transmitted can be transferred via a secure connection to the central processing and evaluation. Thus, the secured area can be virtually





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One billion was just the first step

Explosia, the explosives manufacturer based in Pardubice, reached a turnover of one billion Czech crowns in 2017 for the first time in its modern history. The output of fully combustible propellant charges, which has thus far been destined beyond the borders of the Czech Republic, contributed a great deal to this achievement. However, Explosia declares that it has definitely not reached the limit of its capabilities, and it intends to take advantage of the armament boom of armies that has recently been in full swing.



Explosia is currently manufacturing the second generation of modular propellant charges under the name 155mm BMCS (Bi-Modular Charge System). The first generation was successfully introduced in the Armed Forces of the Slovak Republic in 2002-2003. The second generation has been despatched to NATO member armed forces in the course of 2014-2018. It was also thanks to this fact that Explosia exceeded CZK one billion in turnover, to which the construction of a centre for the development, research and modernisation of manufacture of combustible ammunition parts worth CZK one hundred million also contributed. Thus, the wholly state-owned joint-stock company can additionally proudly claim that it is part of a limited group of global manufacturers that are capable of producing fully combustible propellant charges for 155mm gun-howitzers with 39, 45 and, in particular, 52 calibre barrel lengths.

Fully combustible modules are propellant charges intended for gun-howitzers, the purpose of which is, in most cases, indirect fire at area targets. The number of modules that will be used depends on the distance at which projectiles are to be fired. In the past,

until the remaining shell casing is removed. In developing and manufacturing BMCS, Explosia closely collaborates with manufacturers of both ammunition (ZVS Holding) and entire weapon systems (Konštrukta Defence) in such a way to meet user requirements to the greatest possible extent. The primary advantages of the currently produced modular propellant charges include the actual fully combustible case, which is water-resistant and considerate to the barrel as well. The operating temperatures range from -50 to +63 degrees Celsius. Loading is possible both manually and automatically, and the modules are in compliance with the JBMoU, the so-called ballistic memorandum. Together with its Research Institute of Industrial Chemistry, Explosia is currently working on packaging and logistics improvements, and new packaging for BMCSs and new shipping and storage containers should be made available in the future.

The development of modern weapon systems also brings great challenges in developing appropriate ammunition systems. Demands are rising for the accuracy, efficiency and rate of fire. Modern self-propelled 155 mm howitzers are no exception in this

metal shell casings, which accounted for a not insignificant portion of the unusable weight, were used for powder charges. Thus, the fully combustible system not only enables utilising the total weight to supply energy for the shot, but the chamber can now also be loaded immediately with another projectile after the shot has been fired instead of waiting

respect, and it is here that Explosia can utilise the abilities, knowledge and experience of its experts. The Company aims to negotiate an agreement to sell its products, for example, to Asia and to the Middle East but, in particular, to NATO countries. Breaking into the domestic market is also a significant goal. Should the Czech Armed Forces select new weapons for its future needs, BCMS can be adjusted in order to be fully compatible. Selecting a Czech company which, in addition, is owned by the state would not only support the Czech defence industry, but it would also enable representatives of the Defence Standardisation, Codification and Government Quality Assurance Authority to directly inspect the quality.

Explosia seems to be fully prepared to not only execute orders for foreign armed forces, but also for the Czech Armed Forces. It is ready to invest considerable resources in modernising the actual development and production of fully combustible modules. If we are now amid the booming demand for large-calibre ammunition, primarily of 155mm calibre, we need to exploit it to the fullest, as we may have to wait several decades for a similar opportunity.



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SCIOX Security

Simple compact X-ray for mail and carry-on luggage control

Czech Republic based company ELEDUS Ltd. came up with new RTG device for security applications this year. This device is compact which is easy to move anywhere and use any-time when the need for „internal“ inspection occur.

Without a doubt you are familiar with security belt X-rays already located in every airport and court. This is the most common security X-ray form however there are places where you need different approach and design. This need is resolved with SCIOX Security which is designed as cabinet. Open the door, insert item, close the door and with one button get a X-ray picture. Scanning interval is same as getting item through belt X-ray. Advantages of cabinet X-ray are simple installation in given location due to lightweight compact form and achievable resolution. Installation is a question of few minutes. Connect power cord, turn a key and you are ready to scan. Which means that it can be used almost anywhere. For applications without power like football stadiums and music festivals entrances there is option with battery which expands use. Regular size of detecting element for belt X-ray is around 1 mm. SCIOX Security size of detecting element is 54 μm (0,054 mm, 18,5 times smaller than belt X-ray). With this configuration it is possible to see not only that something is inside but recognize what is inside. These detailed scans can reveal for example much even spy bug device. For maximum use comfort there is 24" multi-touch display which brings control intuition and possibility to be used by anyone. You can choose between Czech and English language and we can provide any other language localization.

Machine is developed and produced in the Czech Republic which means we are able to provide above standart support and service.



Active radars from Pardubice cover more and more of the world

The company ELDIS Pardubice, s.r.o. signed an important contract for the delivery of radar systems for Civil Aviation Administration of China. The company should deliver thirteen radars before the end of the year 2020.

Based on the won tender, the leading Czech producer of active radars was awarded a contract for delivery of brand new radar systems to 13 sites in China. This culminated from several years effort of the company to promote the products in this country. "This contract will be fulfilled by 2020 and we believe that its successful delivery can help us with further opportunities in the Chinese market. This is the first delivery of ELDIS radars to China, which was preceded by a long certification

process," Andrej Čírték, spokesperson of ELDIS Pardubice.

The supply includes 8 secondary radars MSSR-1, 2 primary radars RL-2000 and 3 collocated radars RL-20001/MSSR-1. China has thus become one of the most

important customers of ELDIS Pardubice, which has during 27 years of experience delivered the radar technology to more than 25 countries worldwide. Recently, the company dominates the airport radar market in the Czech Republic, Poland, India or Pakistan.



Experienced team of professionals is constantly growing

The company ELDIS Pardubice employs about 180 professionals in various positions and currently enlarges the production capacities to meet the demanding requirements of customers and to offer them reliable and high quality products. This is also evidenced by a number of prestigious awards, which the company and its products have received in recent years.



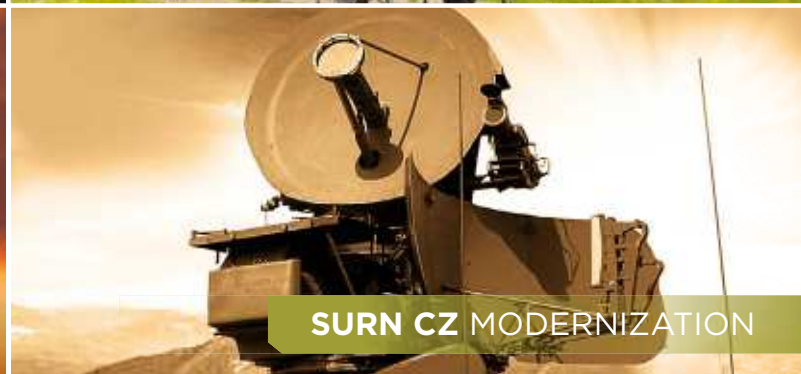
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CZECHOSLOVAK GROUP



EXCALIBUR ARMY, part of the **CZECHOSLOVAK GROUP** holding, is a Czech producer and seller of heavy military vehicles, spare parts, weapons, ammunition and other military equipment. It focuses on research and development, production, maintenance, repairs, overhauls and modernization of ground military vehicles and technology.

Its main current projects include Patriot APC, DANA M2 howitzer, RM-70 Vampire and BM-21 MT rocket launchers, AM-50 EX and AM-70 EX bridge layers, and IFV and tank upgrade programs, such as T-72 Scarab.

Patriot 4x4 APC is a modular concept vehicle meeting all NATO standards. Its robust build is based on the durable Tatra chassis. Due to its versatility and modularity, the Patriot is suitable for ar-

med and security forces, as well as civilian use. The modernization of the DANA M2 wheeled howitzer brings significant upgrades to this proven weapon, bringing it to the standards of modern artillery systems. These include e.g. higher vehicle durability and dynamic properties, improved accuracy and higher engagement speed. The RM-70 Vampire rocket launcher with the tried and tested launching system GRAD 122 mm is designed to perform concentrated fire to eradicate live combat force or armament. The Vampire can be equipped with several types of armoured cabins for biological and chemical protection. Additional ballistics and anti-mine protection can also be installed. The AM-50 EX and AM-70 EX carry a bridge-laying system mounted on the Tatra Force chassis, meeting the MLC-50 and MLC-70 standards and is capable of bridging

an obstacle with the length of 10 to 12.5 meters and a depth of up to 6 metres. The modernized T-72 Scarab tank is characterized by Czech-made DYNA reactive armour integration, stronger V-84 engine, improved optics and the remotely controlled weapon station.

The company has customers all around the world, a turnover of \$ 110 million over the last period, and works with renowned global security technology producers.



The company VORRENS s.r.o.



The company **VORRENS s.r.o.** was founded in 2009 as a company focusing on supplies of material and services for users of air and ground technology, including military equipment. VORRENS has progressively built and broadened its network of agencies and partners, which is now spread throughout the countries of Europe, the Commonwealth of Independent States, central and northern Africa and south-east Asia. Employees at the company draw on their many years of experience in trading in the services and products of Czech

engineering and more. Company VORRENS holds an ISO 9001 certificate and is authorised by Czech authorities for trade with military material. VORRENS is a member of Defence and Security Industry Association and French-Czech Chamber of Commerce.

VORRENS offers supplies of materials and services in the field of:

- Maintenance, repair and exploitation of aircraft and helicopters;
- Spare parts and ground equipment, incl. test stands and testing devices, tools and other components and materials;
- Air crew, rescue and protective equipment (e.g. life rafts and jackets, helmets, NVG equipment, radio equipment, signalisation and other special

devices for pilot's survival kits);

- Protective ballistic equipment and clothing for the police and special forces of the army (e.g. anti-riot equipment, ballistic vests, shields, gloves and helmets and other parts of the individual protection), incl. ballistic protection of vehicles, boats and helicopters;
- Equipment of communication technology for air and ground crews and for mobile devices;
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- Consulting and advisory services.

Contacts: VORRENS s.r.o., Severní III. 633/24, 141 00 Prague - 4, Czech Republic, phone (+420) 272 760 019, fax. (+420) 272 760 017, e-mail: info@vorrens.cz, www.vorrens.cz

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When designing and manufacturing our military trailers, the greatest attention is paid to ruggedness of their structure and minimization of any features that would impair the off-road capabilities of both towing vehicle and the trailer. We are able to meet any requirements relating to military trailers and we can supply a trailer for almost any towing vehicle. When required, we can even design and manufacture trailers incorporating modifications and additional equipment according to customer's requirements. Our trailers are manufactured to official specifications in effect in the Czech Republic.

Our product portfolio comprises the following trailer variants:

- Flatbed trailer with tarpaulin
 - Trailer - container carrier
 - Trailer with box body
 - Trailer for water transport
 - Trailer with cooling body
 - Trailer for transport of wheel vehicles
 - Trailer for completion
- for towing vehicles: IVECO LMV, TATRA 815, MB Unimog, MB Zetros, Dingo, and RG 32.
- We constantly expand our trailer portfolio. For next year, we plan launch of a brand new trailer with independent wheel suspension using coil springs.
- The best proof of our success is that six NATO member states have already deployed our military trailers - the Czech Republic, Slovakia, Austria, Germany, Italy, and Poland.

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NCS College 2018 used AURA software for the training

The 4th International Codification Courses were held at the University of Defence in Brno under the aegis of its rector in August and September this year, this time entitled "NCS College together". The courses were organised by the University of Defence together with the National Codification Bureau of the Czech Republic – organizationally, informationally, by lecturing and financially supported by the company AURA, s.r.o. from Brno.



NCS College together

This year's International NCS College was held with close cooperation with state institutions and private companies, exactly in the spirit of the strategy and tactics of the synergic interconnection of these subjects bound by a contract, with the aim of achievement of an optimal result. The University of Defence ensured the needed academic spaces with the highest possible certification for successful attendants, the National Codification Bureau of the Czech Republic, which operates within the Ministry of De-

fence ensured the indispensable quality and observing the military and codification rules. AURA supplied its own information system for codification MC CATALOGUE that is currently the most used worldwide, within the NATO Codification System it is used in 20 countries already.

Thanks to this collective effort of the state institutions and the private companies the International Codification Courses held in Czechia differentiate from other international courses, performed exclusively by non-private institutions on virtual artificial soft-

ware only simulate real systems common conception, the 100th student of the Brno Codification Courses for Managers, Logisticians and Codifiers, which had been attended by students from almost 30 countries of the world in total, was certified this year.

Focus of the Brno codification courses

The international codification courses held at the University of Defence in Brno are divided into preparation of managers and logisticians concerned with materiel and services codification issues at armed forces



(Courses for Managers and Logisticians) and training of the staff effecting directly the codification processes (Courses for Codifiers). It is not always the case, however attending both courses, especially by students from the countries yet entering the NATO Codification System, is proving very advantageous – first general course and then the specific one. 11 students of the Course for Managers and Logisticians (4 from the private sphere and 7 from state institutions), 9 learners of the Course for Codifiers (4 from the state institutions and 4 private ones) from 9 different countries successfully completed the courses this year. In similar way was conceived also the composition of the lecturing and moderating staff according to “halb um halb” principal – 5 from the University of Defence and the National Codification Bureau of the Czech Republic and 5 from AURA and Allan Webb. The lecturer and moderator of the Course for Managers and Logisticians was excellent former director of the National Codification Bureau of the United Kingdom and former long-time chairman of the National Directors on Codification Allied Committee 135 (AC/135) George Bond. As the students and lecturers, there were officers and civilians from Afghanistan, NATO structures, Saudi Arabia, Scotland, Sweden, the USA and of course from the Czechia sitting next to each other. Keep on like this!

Why to go to Czechia to the University of Defence for codification?

In the whole history of the four years of the international codification courses in Brno - first supported by USA and a promise that NCS College would be taken in turns with the NCB College in Battle Creek, later with par-

ticipation of the AC/135 and finally under exclusive coordination of Czechia and considerable foreign lecturers and the Allan Web company, it is proved that a great advantage and attractor for students representing the state and private sector is the lecturing and training by experienced and skilled lecturers in a real codification software. It is currently the most worldwide used information system MC CATALOGUE, developed and supplied by AURA company. The connection of industry and state institutions seems to be optimal also for schooling and training of the codification staff. It is worth noting that also other suppliers of codification software are invited to the NCS College. Academic space, where the codification courses take place and the participation of the National

Codification Bureau of the Czech Republic ensure university certificates with high international value for the students. Brno, Praha and other regions of the Czech Republic where the schooling, training and accompanying course activities take place enter indelibly to the students' minds. The last courses were marked by the students in 7 areas evaluated with 1.17, respectively 1.07 and recommended to co-workers. Some student repeatedly come back to the NCS College in Brno.

We will deal with the NCS College 2020 successfully again and we will prepare next managers, logisticians and codifiers for accomplishing the NATO Codification System!

By Antonín Svěrák





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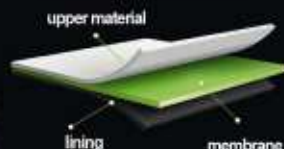
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15TH INTERNATIONAL
DEFENCE AND SECURITY
TECHNOLOGIES FAIR

29. 5.–1. 6. 2019
BRNO, CZECH REPUBLIC

IDET, PYROS AND ISET 2019: SECURITY FAIRS WILL OPEN NEW OPPORTUNITIES FOR BUSINESS

Security has become a clear priority these days. At this time of increased risks deriving from new outbreaks of war, terrorist attacks as well as other threats, governments do not hesitate to invest in defense and security technologies. Along with that the importance of the defense industry is growing, which has traditionally a strong position in the Czech Republic. Companies present their new products aimed for security forces at trade fairs, to which the Brno's IDET has belonged since 1993. Next year on the verge of May and June, its fifteenth edition will be held, once again in partnership with the PYROS and ISET fairs, which present fire and safety equipment and services. There is considerable interest in participation already long time before, because both the Ministry of Defense and the Czech Police and Fire Rescue Brigade of the Czech Republic increase their budgets for medium-term purchasing plans.

IDET forms an essential platform for the presentation of the Czech defense and security industry. Just like in previous years, it will offer the exhibiting firms direct contacts with both domestic and international customers. As an exhibition of defense technologies for Central and Eastern Europe, it is regularly attended by the Ministries of Defense of Poland, Hungary, Slovakia and other countries; NATO is usually directly represented with an exhibition stand here, and defense sector delegations come from dozens of countries all around the world. A partner of this trade fair, the Association of Defense and Security Industry of the Czech Republic brings together 110 member companies that are very successful in foreign markets with weapons, security systems and technologies. Already nowadays they export about 80 percent of their products and their application possibilities continue to grow; in fact, sales of armament companies grow globally, and the fastest growth is right in Europe.

The attractiveness of the IDET International Exhibition of Defense and Security Technologies is enhanced by its interconnection with the PYROS International Trade Fair of Fire Fighting Equipment and Services and the ISET International Security Technology and Services Fair. This shamrock of SECURITY FAIRS hence covers with its range of exhibits the entire integrated rescue system, consisting of the army, police and fire brigade. All three components of the Integrated Rescue System work together very closely and often use the same equipment, information technology, communication means, weapons and vehicles. The Brno trade fairs hence give an overview of the entire military and civilian security and above all multiply the possibilities for exhibitors to establish themselves as suppliers for the various components of the integrated rescue system. Recently published acquisition intentions in the medium term open a variety of opportunities for that.

A series of modernization projects have been announced by the **Czech Army**, which in the context of the deteriorating security situation increases the investments into its technical equipment. By 2020, the Czech Republic defense expenditure should rise to 1.4% of GDP. The goal is namely the modernization of ground forces, and the priority objectives include the modernization or replacement of obsolete BMP-2 armored vehicles and a purchase of 50 NATO caliber cannons, which will replace the ending Dana howitzers. The main armament projects of the Army of the Czech Republic in the medium term include also purchases of mobile radiolocators, light multipurpose helicopters, command-staff and radio communication wheeled armored vehicles and special vehicles for the chemical unit. At the same time project named 'Soldier of the 21st Century' continues, the RBS air defense system modernization is under preparation, as well as the acquisition of SHORAD air defense systems, development of a new global data network and others.



The **Fire Rescue Brigade of the Czech Republic** is also preparing an extensive modernization of its individual components virtually in all covered areas. Replacement of firefighting rescue vehicles, equipment and material, as well as investments into information technology and control centers are counted on. The announced purchases also affect the means and material for the protection of property against floods, as well as engineering and other equipment for the elimination of consequences of explosions and other disasters, equipment for detecting and removing the effects of chemical and industrial accidents, and last but not least, equipment for rescue and humanitarian operations.

The **Police of the Czech Republic** in the medium horizon will be purchasing multipurpose helicopters, off-road vehicles, information technology and means of communication. In the pipeline are also modifications of guns and investments into optical apparatuses, vehicle replacements and basic equipment for police officers, as well as purchases of new means of personal protection – helmets and bullet-proof jackets. The ISET 2019 fair, with topic of cyber security, will be an opportunity for a comprehensive presentation of technologies for the protection and safety of life and property.

The whole shamrock of SECURITY FAIRS 2019 will then demonstrate the capabilities of individual components of the security system to face the current threats in case of emergency events in the Czech Republic. Great interest in the exhibits is expected from the public and above all from domestic and international professionals. Moreover, the Brno Exhibition Centre allows presenting the equipment directly in action in a unique outdoor terrain polygon, where attractive demonstrations of various opportunities of utilization take place. The fairs will also feature a traditionally high-quality extensive specialized supporting programme with international conferences and seminars. Brno University of Defense is preparing the CATE (Community – Army – Technology – Environment) conference. Part of the fair is also a prestigious competition for the best innovative IDET Gold exhibits.

During the last edition in 2017, the SECURITY FAIRS were attended by more than 32 thousand visitors from 48 countries, and official army delegations arrived from 17 countries.

www.idet.eu

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