Review®

for Defence and Security Industry

4/2019 | online | www.msline.cz

The Media Platform of the Defence and Security Industry Association of the Czech Republic

DSIA

TATRA FORCE


TATRA
TATRA
TAKES YOU
FURTHER

www.tatra.cz

EDITORIAL

Dear readers,

This year was characterized by important anniversaries, whether it was 70 years since NATO foundation, 20 years of the Czech Republic's membership in the North Atlantic Alliance, or 30 years since the Velvet Revolution in what was then Czechoslovakia. However, I cannot omit to mention the important anniversary of world-famous company from the Czech defence and security industry, such as 100 years since the origin of the TATRA brand in Kopřivnice factory founded in 1850.

The Czech defence and security industry is able to offer a number of comprehensive solutions, unique technologies or products in the areas of aeronautical engineering, ground equipment, cybernetics, research and development and others. The diversity of defence and security industry production is presented in this issue by more than one third of the members of the Czech Defence and Security Industry Association, which has over 100 members. Of course, you will also find contributions from non-member companies such as MCAE, describing, among other things, cooperation in the production of combat vehicles using 3D printing.

The Czech Republic is perceived as a serious partner in the world. Defence and security industry companies keep also actively presenting the Czech Republic at international trade fairs, and the new Deputy of the re-established Industrial Cooperation Section of the Ministry of Defence of the Czech Republic, PhDr. Tomáš Kopečný, describes this as well as other opportunities and cooperation with not only foreign partners.

We also prepared other no less interesting interviews on firefighting or police topics, specifically with col. Mgr. Radek Kislinger, the Head of the Department of Fire Causes Determination of the Ministry of Interior - Directorate-General of the Fire Rescue Service of the Czech Republic or with col. Martin Hrinko, who left the Police of the Czech Republic after 26 years of the service.

Dear friends, on behalf of the whole editorial team, I would like to wish you success and happiness in the New year for, but above all health, and thank you for the all-year-round cooperation and for your interest in our „Reviews".

Keep your interest also in 2020!

Šárka Cook, editor-in-chief

CONTENTS

Publishing House: Military System Line, s.r.o., Vykáň 82, 289 15 Kounice, Czech Republic, phone: +420 321 672 601, e-mail: info@msline.cz, www.msline.cz • Editor in Chief: Šárka Cook • Deputy Editor in Chief: Miloš Soukup • Professional Editors: Šárka Cook, Miloš Soukup, Antonín Svěrák, Vít Práchenský, Radek Bár • Head of Advertising Office: Eva Soukupová • Graphic design: Jiří Kuneš, www.jirikunes.cz • Internet Manager: Soliter-polygrafická společnost, s.r.o. • Distribution: MS Line, s.r.o., Digital-ICT, s.r.o. • Translator's Agency: Jiří Mareš, Eva Soukupová • Print: Magnus I s.r.o. • Key number: MK ČR E 19352, ISSN 2336-3460 • Not for sale • Photo on the cover: TATRA

EDITORIAL BOARD OF CDIS REVIEW 2019

Interview with Tomáš Kopečný

the new Deputy of the re-established Section of Industrial Cooperation of the Ministry of Defence of the Czech Republic

Mr. Deputy, could you briefly present to our readers the main tasks and scope of your work in the Industrial Cooperation Section? What are the most important visions and plans for this re-established section?

At the beginning I would like to mention that the agenda of the abolished Section for Industrial Cooperation, which we will build on from January 2020, has not disappeared. The Industrial Cooperation Department played and still plays the key role in support and development of the Czech defence industry capabilities. Re-establishment of the Industrial Cooperation Section is a proof that this agenda is not marginal and should not take a back seat in the organizational context. This new section will enable much more effective and broad-scale fulfilment of all activities resulting from the adopted Armaments Strategy and Support of the Development of the Defence Industry of the Czech Republic until 2025.

The main tasks will continue to be based on the structural conditions of the Czech defence industry, which is more than 90 % dependent on exports and the vast majority of it is in private hands. Maintaining good relations between companies and the Ministry of Defence will clearly be more institutionalized with respect to preparation for crisis situations. And in order to maintain and develop production and development capabilities of our industry, we will also intensively assist it at foreign markets where it often has no chance to gain ground without being backed by the Ministry of Defence.

Our support of Czech companies at NATO and EU level comes to forth. EDIDP and EDF programs will be among the key opportunities and challenges in forthcoming years. Among other things, we also want to build on the successes of delivering VERA NG systems to NATO troops through the organization of Czech Industrial Days at major Alliance agencies such as NSPA or NCIA. And the defence industry research and innovation agenda, to which we contribute, among other things, by organizing industrial days, seminars and industrial forums, will not be left out either.

Overall, we will work to create a functioning ecosystem of relationships between military users, industrial manufacturers, and science and research and academic institutions. Only then we will be able to move forward our technological capabilities.

Can you please describe the cooperation of the section with the Czech defence and security industry? Which requirements may companies address to you and how would you assess the cooperation with DSIA CR members in particular?

We perceive our defence industry as a key partner in ensuring the country's defence capabilities. We keep in touch with Czech defence industry companies, besides individual consultations we also organize joint meetings with representatives of companies and other ministries, where we jointly plan territorial priorities for coming years and get very important feedback for us on already implemented events.

We carry out our pro-export activities mainly through the PROPED tool, thanks to which we manage to organize around 40-50 events per year in cooperation with particular embassies. These are mainly field missions, bilateral meetings at official and expert level, defence industry days abroad and, last but not least, participation in trade fairs and exhibitions of defence and security technologies around the world. These projects are being prepared and implemented in reaction to the needs and requirements of the defence industry companies and the abovementioned feedback. Of course, everything is based on maintaining maximum confidence in our relationship with defence industry representatives.

Apart from long-term planning, we keep in regular touch with business cases occurring at any given time. For example, a tender for an equipment is announced abroad and the letter of recommendation from the Ministry of Defence is needed. We are able to provide an appropriate reference very quickly on the basis of the experience of our army and support the company that way. The support of our companies on the spot is of the equal importance. Very nice are the cases where something can be launched almost immediately - recently in one Middle East country through two negotiations I could arrange meetings for some of our companies for the next week. Despite their own letters they have been waiting for the date of audience over one year. At the end of the day it is, of course, about their ability to ability to seize and capture such opportunities, but we can help a lot, especially with the initial steps.

With the aim to support Czech companies abroad, you regularly and in my view very actively participate in international trade fairs focused on defence and security such as IDEX, DSEI, EUROSATORY, Defence & Security, as well as trade fairs within PROPED projects or foreign missions. What is the main purpose of this support?

For our foreign partners, the participation of the official delegation of the Ministry of Defence of the Czech Republic also means a guarantee of the quality of companies exhibiting at national stands. It is thanks to the abovementioned PROPEDs that we enable Czech companies to exhibit at more favourable conditions, within a joint exhibition on a larger area, where we personally support them during bilateral negotiations with our foreign opposite numbers, not only from the country where the fair takes place.

How is the Czech Republic perceived at these fairs?

The Czech Republic is perceived as a serious business partner, our defence industry is able to offer a range of comprehensive solutions, high technology and products in the areas of aerospace, ground equipment, research and development, including new technologies such as laser systems, robotic and unmanned aerial vehicles.

What did you manage to achieve last year and what are the other plans to support the development of Czech industry exports in the forthcoming period?

Last year we managed to implement over 50 activities related to the defence industry, whether it was participation in defence fairs, various G2G, B2B seminars, defence industry days around the world. As examples of very successful trade fairs, I would like to remark the exhibitions that you mentioned, our participation at IDEX, Defence and Security Exhibition in Thailand or AERO India. Business missions to African and Latin American countries received very favourable response as well.
In 2020 we will participate in many important fairs in our territories of interest such as DEFEXPO, DSA, KADEX, EUROSATORY, ADAS, IDEB, Indo Defence, IDEAS. In the following period we would like to carry on our activities related to the support of the Czech defence industry within the framework of European initiatives and at the same time we are trying to find a solution of state guarantees issue including the sale of military material in G2G format.

In the previous question, I mentioned PROPEDs, or projects supporting economic diplomacy. Could you tell us more about these projects?

The projects supporting economic diplomacy, so-called PROPEDs, are a very useful and beneficial tool giving us the opportunity for further support the activities and promotion of the Czech defence industry companies on foreign markets. As already mentioned in the previous

question, these projects are mostly used on the occasion of participation in foreign trade fairs, but also for the organization of incoming missions of foreign partners to the Czech Republic. On PROPEDs we work closely with the Ministry of Foreign Affairs of the Czech Republic, where embassies and their contacts in the given territory play an essential role for us. In order to best target and map the areas of interest of the Czech defence industry companies and to be able to support them in their business development as effectively as possible, we hold discussions with them every year on their priorities in specific territories. The structure of PROPEDs for the following year is always planned with regard to the interests of the Czech companies.

In the last interview with you, as the Director of the Industrial Cooperation Department, you detailed more the topic of EDAP - the European Defence Action Plan, or the European Defence Fund respectively and the involvement of the Czech defence and security companies. Could you evaluate the year 2019?

2018 was a key year for the adoption of the EDIDP Regulation, followed by the approval of the EDIDP Work Program in 2019. Essential was the announcement of the first call, published in April 2019. This call was responded by a consortium the leader of which is AERO Vodochody. Under the Development of Combat Jet Training Platform, the project offers an L-39 NG training platform, including a new airplane, simulators, and training procedures for military tactical aircraft pilots. The project has been submitted to the European Commission (EC) in September and is currently being evaluated by independent EC experts. The results of the evaluation will be known at the beginning of next year. Within the preparation of the second EC call, which will be announced at the beginning of next year, the Czech companies have prepared 4 projects in total, in which they will play the leading role within the international consortium. In addition, we know about 2-3 other projects in which the Czech companies will be involved as consortium members.
We keep intensive communication with the companies in the phase of project preparation and we are handing over the projects to the Army of the Czech Republic for evaluation. And since the EDIDP program does not include 100% project funding, but only contributes by a certain amount according to specific criteria, the Ministry of Defence Department, in cooperation with the Technology Agency of the Czech Republic, is addressing how to support project funding, i.e. supplementary funding. This is particularly important for scientific institutions and universities.
Therefore, I can say that 2019, the start-up year of the EDIDP program, proved to be, from our point of view, very full. The Czech Republic is active in this area, has prepared projects and I firmly believe that these projects will succeed in the international competition.

Thank you for the interview, Mr. Deputy.
Šárka Cook

CREATING REFERENCES IN DEFENSE

nexter A COMPANY OF KNDS

Interview with Col. Radek Kislinger

Head of the Department of Fire Causes Determination of the Ministry of Interior - Directorate-General of the Fire Rescue Service of the Czech Republic and expert witness in the area of fire protection - specialization of fire investigation.

Col. has been working as the firefighter since 1996, and the longest time in that period, almost 19 years, was devoted to fire investigation. In 2017, Mr. Radek Kislinger was elected as the Vice-Chairman of the Fire Investigation Working Group under the auspices of CTIF.

Colonel, can you please introduce the area of investigation of fire causes, which is an integral part of the Fire Rescue Service of the Czech Republic?

The primary task and therefore the interest of the Fire Rescue Service of the Czech Republic is to create and develop conditions for effective protection of life and health of people and property against fires and for providing effective assistance in case of fire in order to ensure the necessary level of fire safety. One of the tools to accomplish this task is the activity of the State Fire Supervision (SPD), in which the determination of causes of fires (ZPP) plays a key role. This consists of collecting all necessary information related to the occurrence of fire and its spreading in buildings and facilities, as well as monitoring behavior of people during fires.

Determination of fire causes is one of the major complex technical disciplines in the area of fire protection. Investigation of fires cannot be understood statically, but on the contrary as a constantly evolving process, where it is absolutely necessary to use the results of science and technology and effectively apply in practice the new piece of knowledge.

What role does ZPP play in the area of state fire supervision? Can you briefly describe the function of the ZPP system within the Czech Fire Rescue Service in the Czech Republic?

The ZPP performance within the SPD aims not only to identify the potential offender (culprit), but also to identify consistently the technical mechanisms of the origin of the fire and to include this knowledge into comprehensive knowledge of the origin and behavior of the fire, including the impact on the object or place of origin. All these findings are subsequently evaluated, analyzed and incorporated back into the development of regulations or into the implementation of preventive educational activities in the area of fire prevention. ZPP is a public service provided through fire investigators 24 hours a day. The ZPP service goes to all fires (apart from certain exceptions - fires of waste without damage, demolition, wrecks, etc.) on the territory of the Czech Republic within the scope of competence of particular FRS regions.

Does the fire investigator need to be specifically trained?

Yes, each fire investigator has to go through several training courses, the last being the so-called specialty course for fire investigators, which we are particularly proud of. We have learned to implement its content, especially the practical part, on the basis of the experience of our foreign colleagues and we continue to improve it. This course is always very positively appreciated by the participants, especially because it successfully combines theory and practice. As an example, that I can mention, is burning of small rooms built in the ship containers. The course participants then make the inspection of the place of fire and determine the cause of fire. After that they present their findings to other course participants. Only after their presentation they can watch the video where they can see how the fire actually originated and whether they their considerations were correct, so to speak.

Does the FRS CR have enough fire investigators? Is there a general interest in this demanding job? How long does it take for a new member of the FRS CR to become a full-fledged fire investigator?

At present, this job is carried out by 353 fire investigators, of whom 127 are so-called basic investigators who have the ZPP as their full-time job and 226 so-called others who start the ZPP service on call after the end of their standard working hours. In larger cities, there are other service models in a different service mode. We also have many women amongst fire investigators involved in control or construction prevention, protection of civil population etc. Given the size of the Czech Republic, the number of fire investigators is sufficient. There is a great deal of interest in this work, although it is fairly risky. On the top of this, we can boast that there is not much fluctuation amongst us. It takes several years for our member to develop into a truly experienced fire investigator. And from many responses of my colleagues I know that they enjoy this course of learning, which comes up to their expectations.

How the Fire Rescue Service of the Czech Republic and the ZPP in particular coope-

rate with other Integrated Rescue System Units in their work?

Without cooperation with other IRS Units, the activities of the ZPP are not conceivable at all. The most important is cooperation with the Police of the Czech Republic.
Members of the regional fire brigades who are designated to perform ZPP are subject to a legal obligation to perform ZPP for all fires. In these fires, the police authority is obliged to investigate if the case is suspected of committing a crime. In order to decide whether or not a criminal offense is suspected in a particular case, the police must know from the logic of the case, the cause of the fire and suspect that the offense was committed by a possible offender. At the same time, all acts leading to this finding must be carried out in accordance with the Criminal Procedure Code. The regional FRS does not have the powers of the police authority and therefore the actions performed by it are not based on procedures arising from the Criminal Procedure Code.
For the purpose of co-operation, there is the Co-operation agreement from 2005 between the Fire Rescue Service of the Czech Republic and the Police of the Czech Republic stipulating the basic principles of ZPP procedure at the place of fire in case criminal offence suspicion. In principle, it can be said that after handing over the place of fire by the commander of firefighters, the Police of the Czech Republic bears responsibility for performed actions from the point of view of the Criminal Procedure Code until the criminal offence suspicions reliably ruled out. The abovementioned agreement requires both parties to act in a coordinated and collaborating manner. On the other hand, the Fire Rescue Service of the Czech Republic is legally responsible for the ZPP, using the general principles of Rules of Administrative Procedure, as the Fire Protection Act does not stipulate specific procedures. In both cases, i.e. during actions according to the Criminal Procedure Code and at the ZPP, members of the Police of the Czech Republic and the Fire Rescue Service of the Czech Republic are dependent on their findings and mutual professional assistance.

How does the ZPP system in the Czech Republic compare with other EU countries? Do members of ZPP from the Czech Republic go to collect experience at foreign internships??

At international conferences or at CTIF workshops in which the Czech representatives actively participate, a frequent topic is also the comparison of different national approaches in the area of ZPP or diversity in the area of authorization of fire investigators. Within the EU, approaches to the ZPP are very different.
Some of our ZPP members also had the opportunity to attend training course for fire investigators at the semi-private National Association of Fire Investigators (NAFI) in the US and other foreign courses in England or Poland. Czech fire investigators can fully compare their expertise not only with their colleagues from the USA, but also from other states, for example countries joined in CTIF - Fire Investigation Working Group (Hungary, Denmark, Bulgaria, Slovakia, the Netherlands, Greece, Belgium, Belarus, Estonia, Lithuania or the USA) or even countries that have sent their representatives to us (e.g. under the Memorandum of Cooperation) as a part of their further professional development (e.g. Albania).

Is it possible to apply any knowledge from abroad also in our country?

Sometimes yes sometimes no. For example, in the United States, offenses in the area of fire protection are not dealt with as thoroughly as in the Czech Republic, but unlike the Czech fire investigators, fire investigators in the USA have more competences, particularly in the criminal sphere, e.g. actively guessing and subsequently tracking a suspected arsonist, they have dogs searching for accelerators of fire, they arrest suspects etc. In the framework of international cooperation, we rather share knowledge from individual fires, mutually provide information about curiosities or fire safety phenomena that transcend national borders.

Is the ZPP system specially equipped for its work? (emergency vehicles, laboratories, etc.). Are you contended with the level of equipment of ZPP members in the Czech Republic?

All our fire investigators use investigation cars, equipped with so-called ZPP mandatory equipment. The equipment includes items from shovels, brooms to special measuring instruments. Similarly, they are equipped with top working suits, etc. Our expert workplaces, the Population Protection Institute in Lázně Bohdaneč (IOO LB) and the Technical Institute of Fire Protection of the Fire Rescue Service of the Czech Republic (TÚPO) are also provided with top equipment. They have available, for example, a drone, spheron, laser scanner or X-ray workplace and other special measuring and documentation means. In addition, IOO LB has built a special experimental workplace to

fulfil the needs of ZPP, carrying out various measurements associated with the investigation or verification of possible causes of fires.

During ZPP process the investigators also cooperate with expert workplaces, can you briefly describe what can be found out about the causes of fires?

Our experts from IOO LB and TÚPO or chemical laboratories of regional fire brigades are called on to investigate the causes of fires in detail. The authority responsible for the outcome of the on-site investigation shall decide which expert comes to the site of the fire. Our experts are most often asked for expert conclusions related to technical defects, material defects or improper handling in relation to fire protection. In any case, at the beginning, the presence of all experts at the scene of fire, who can significantly help to direct further course of investigation, definitely improves the professional level of ZPP. In general, it can be therefore claimed that in the area of ZPP the public is offered a top-class public service, which is able to present a clear cause of a fire in a short time.

The Fire Rescue Service of the Czech Republic collects all statistical data in a special system with a large space devoted for ZPP area. What do such data imply?

In the Czech Republic we have a unique specimen concerning just the statistical monitoring of fires. Just recently, my colleagues and I have been collecting information on monitoring the death of persons in fires and have obtained comprehensive number series since 1964. Some of our foreign colleagues from so-called Western developed countries do not have available such information. In any case, the statistical data we have available on fires confirm that our fire prevention is at the cutting edge of the world. The biggest problem today is still the high number of fires in households and transportation.

How is such statistics used further?

Thanks to our statistical data we can relatively well target our preventive education campaigns in the area of fire protection, or we can point out some security phenomena related to occurrence of fires.

For example, is it possible to influence on this basis the behavior of general public? (campaigns, projects)

Personally, I believe so. But it's always very complicated. This is because the outcome rarely appears immediately after the end of such campaigns. However, after laps of time, it can be seen that general public behavior is changing after all. For example, we have recently launched a very wide-ranging information campaign to highlight the most common causes of household fires. But we have to wait a few more years to see the outcome on the numbers of fires.

What direction will ZPP take in the future? Will there be any significant changes, or are they even needed?

In the future, we want to reduce the administrative burden associated with this work. We want to be effective, modern and beneficial in the whole process of fire prevention in the Czech Republic.

To conclude, what would you wish for ZPP area in the Czech Republic?

Certainly, wide public support in continuing this service, which is of great security importance for all of us. Good health for all my colleagues and as many successfully determined causes of fires as possible.

Colonel, thank you for the interview.

Šárka Cook

Photo: Prague FRS archive and Ministry of Interior - DG FRS CR

Mobile security measures for the 21st century

The types of threats that are emerging in Europe and the world have recently changed considerably, and the entire defence and security sector has been trying to adapt and seek new protection measures. The Czech Technical University in Prague, as a long-term partner of the state and private sector, is not behind and is developing these measures as well.

The Experimental Centre of the Faculty of Civil Engineering CTU has managed to develop a system of mobile ballistic barriers, so-called MOB-Bars. This system excels in its low weight, speed of deployment and high resistance against ballistic attack and blast. The system consists of individual panels that connect to each other to create the required protective structures. The system can be used primarily for the protection of buildings and structures of strategic importance. It can also serve as a special checkpoint, driveway protection, and last but not least, it can also be used as a mobile city barrier and roadblock. Due to their material composition, which consists of a high-performance ballistic composite, the barriers are able to withstand commonly used small arms up to class FB 7, according to European standard EN 1522/1523.

The second system, called Hystrix, was developed to slow down or stop a moving vehicle. This kind of attack has recently intensified and not only the countries directly affected have made considerable efforts to develop appropriate countermeasures. Hystrix is primarily a mobile system designed for non-urban areas, but under certain measures, it can also be used in urban areas where its only weakness is its visual aspect. The whole system excels in its compactness, speed of deployment and last but not least, its high stopping effect. Each element consists of three separate parts, which are connected very quickly together and are immediately able to stand ready against vehicle ramming attack. By using more Hystrixes, it is possible to achieve a significantly higher stopping effect. The system has been tested and meets the PAS 68 standard for vehicles at 48 km/h.

TATRA TRUCKS

TATRA TRUCKS is one of the world's oldest automotive company with a manufacturing tradition reaching back 168 years. TATRA all-wheel drive off-road vehicles with a unique chassis concept, which is based on a backbone tube and independent swinging half axles made in drive configurations ranging from 4x4 to 16x16, are the key element in the equipment of the Army of the Czech Republic while also being used by armed forces all around the world. 80% of the production of the company are exported and aside from standard model ranges, customized trucks are also tailor-made for customers.

TATRA FORCE is a key product in the defence segment, equipped with the TATRA unique chassis, complete with TATRA air-cooled eight-cylinder engine made in versions from Euro 2 to Euro 5 and with a manual TATRA gearbox (either a direct shift model or with a TATRA electronic shifting system). Besides the air-cooled engines TATRA provides also liquid cooled engines by renowned manufactures Cummins or Caterpillar and fully automatic gearboxes by Allison for instance. TATRA FORCE line can be equipped with standard "soft-skin" cabins, as well as armoured cabins with enhanced ballistic and antimine protection according to NATO standards STANAG 4569. The standard and armoured cabins are made in two--door or four-door versions for crew capacity up to 1+5.

Another major defence product is the TATRA TACTIC range, a medium class all-wheel-drive off-road logistic vehicle. This high mobility off-road vehicle has been designed at the borderline of medium and heavy truck classes N2/N3. Unlike other TATRA vehicles, TATRA TACTIC is based on the standard ladder frame in combination with special TATRA RIGID portal axles, reaching the extremely high ground clearance. The vehicles are made in 4x4 or 6x6 configurations with regular or armoured cabins and further extensions can be custom ordered.

In cooperation with the French company NEXTER SYSTEM, TATRA TRUCKS has developed a new armoured vehicle of the MRAP category named TITUS, which is unique in its combination of high durability and exceptional performance in rough terrain. TITUS can be used in diverse types of missions from combat to security, all the way to police missions protecting property and population. The key feature of this vehicle is its unmatched modularity based on sets of tactical equipment, sets that correspond to the operation environment and a wide range of versions and configurations of the vehicle including IFV, ambulance, command vehicle, self-propelled mortar and maintenance vehicle. The Czech Army is planning to incorporate into service up to hundred of TITUS vehicles in several versions. TATRA TRUCKS also supplies NEXTER with chassis for self-propelled howitzers CAESAR 8x8.

TATRA TRUCKS continues to supply armies of the Czech Republic, Slovakia and other countries with its vehicles. TATRA TRUCKS also supplies chassis for military vehicles made by the Brazilian company AVIBRAS. TATRa TRUCKS made more than two hundred FORCE chassis in 4x4 and 8x8 versions for customers in Jordan and Egypt. Moreover, in 2014 new production facilities were established in Saudi Arabia to manufacture TATRA TACTIC vehicles.

VR Group®

Training & Simulation

Get ready for your missions

VR Group, a.s.

Tiskarska 270/8
Prague 10
Czech Republic
108 00

www.vrg.cz

Phone: +420 296 505 736
Fax: +420 296 505 752
E-mail: vrg@vrg.cz

With the Managing Director of Rheinmetall Czech Republic on the prospects for cooperation

Rheinmetall Czech Republic became a new member of DSIA CR this year, which was presented in autumn 2018 at the Future Forces Forum in Prague and this year also at IDET fair 2019 in Brno. As a result of this, we asked Oliver Mittelsdorf, the Senior Vice President of Sales at Rheinmetall Land Systems GmbH and the Managing Director of Rheinmetall Czech Republic for the interview focused in particular on cooperation with Czech defence and security industry companies, as well as prospects for cooperation with V4 countries. On 4th December, Rheinmetall Defence emphasized its commitment to localize production and global cooperation with the Czech defence and security industry at the ceremony at the Czech-German Chamber of Commerce and Industry in Prague.

Could you briefly introduce Rheinmetall and some of its products to our readers?

Rheinmetall AG is a financially strong, internationally successful company in the automotive component and defence markets. The group's Defence sector is Europe's foremost supplier of land system technology and a long-standing partner of armed forces globally. Rheinmetall Defence products set the standard for excellence in a wide array of disciplines: from vehicle systems, force protection, weapon systems, infantry equipment, air defence, electro-optics and simulation systems.

Rheinmetal Defense participates in the Czech tender with LYNX KF 41. Can you briefly introduce your combat vehicle?

Less than five years elapsed between the initial idea for a new infantry fighting vehicle and the breakthrough order, including formulation of a strategy and the concept and development phases – an impressive feat for an inhouse-financed combat vehicle in a highly demanding market segment where prolonged procurement cycles are the norm.

The Lynx concept embraces a complete vehicle family, consisting of a chassis module and flexible mission kits in numerous variants. This means that the basic vehicle can be configured as an infantry fighting vehicle, an armoured personnel carrier, a command vehicle, an armoured recovery vehicle or field ambulance. Moreover, switching from one configuration to another can be accomplished in a matter of hours. Thanks to the commonality of the basic vehicle, the system will result in substantially lower lifecycle costs, while simultaneously letting military users adapt to changing tactical requirements and/or leverage new capabilities. Outstanding survivability, mobility and lethality characterize the Lynx, as do excellent growth potential, including in terms of its total weight.

Its spacious interior is unsurpassed by any vehicle in its class, assuring the operational effectiveness of its three crew members and up to nine infantry dismounts.

The Lynx shields its occupants from the full spectrum of battlefield threats, including explosions, improvised explosive devices (IEDs), direct and indirect fire, cluster munitions and antitank guided missiles. With its hard-hitting combat effectiveness and excellent off-road mobility, the Lynx will give tomorrow's armed forces a decisive edge in complex military operations at every level of intensity in all kinds of environments, overcoming multiple threats and securing favourable outcomes.

What makes LYNX special? What are its strengths?

Its modularity is what makes Lynx special and unique. Today Lynx is the only tracked that can be converted from one role to another within a few hours in the theatre. Modularity has never been so economical, intelligent or efficient.

Lynx also offers superb force protection for the soldiers in the vehicle. Its armour solution combines passive and active protection elements against antitank weapons, medium-calibre ammunition, artillery shrapnel, IEDs and bomblets.

The Rheinmetall Mk30-2/ ABM medium calibre machine canon provides high lethality with different types of ammunition, including kinetic energy time fused (KETF) air burst munition. Furthermore Lance 2.0 is equipped with modern secondary weapons and the SPIKE anti-tank guided missile. Already today, Lance 2.0 is ready to host larger calibre future machine canons. Mobility completes the capability set! The 1100-horsepower engine gives Lynx the ability to manoeuvre quickly and flexibly even in tough terrain. It is capable of quickly transporting troops and their equipment to potential flashpoints in remarkable comfort, even over long distances making Lynx tailor-made for autonomous operations.

Do you plan to offer LYNX to V4 countries?

We are globally active with Lynx. Of course also in V4 - or better from my opinion - Central Eastern Europe. I think Lynx offers great potential for this region. The current tender in the Czech Republic might be the start of large scale modernization activities with Lynx.

LYNX was down selected in the tender in Australia, can you tell us more about this tender?

The Land 400 Phase 3 is a multi billion project to acquire app. 450 Infantry Fighting Vehicles and 17 Manoeuvre Support Vehicles for the Australian Army to replace the existing fleet of M113 Armoured Personnel Carriers.
In September 2019 Rheinmetall was shortlisted for the Risk Mitigation Activity (RMA), as part of the evaluation process. Rheinmetall aims to localize the Lynx production for Australia in Redbank, Queensland at Rheinmetall's new Military Vehicle Centre of Excellence (MILVEHCOE) south west of Brisbane. Rheinmetall founded the MILVEHCOE after the award of 211 8x8 BOXER Combat Reconnaissance Vehicles (CRV) for the Land 400 Phase 2 program.

According to you, how could the international defence cooperation between the Czech Republic and Germany look like?

The Czech Republic and Germany are neighbours with significant long-term economic and security relations. The automotive industry today is a key chapter in mutual trade. We would like to extend this cooperation to the defence and security industry. Therefore we became member of Defence Security Industry Association and Chamber of Commerce of the Czech Republic. We believe that close cooperation between Czech and German companies for development, production assembly and servicing will make Lynx a success story for both of us.

To what extent will you cooperate with Czech companies if you succeed in the tender?

As part of the "CZECH MADE" project, we would like to transfer a large amount of production for LYNX to the Czech Republic, including the sourcing of major components. We are highly committed to build sovereign national defence capabilities together with military state-owned enterprises as well as private companies. Rheinmetall introduced the project "CZECH MADE"at IDET 2019, in which many Czech companies participated. I am personally convinced that Czech companies have highly professional skills and a great deal of experience in the arms and security industry. In addition Rheinmetall will setup an own turret production in the Czech Republic at Trmice, where we already employ more than 1000 people in our Automotive sector.

Thank you for the interview.
Eva Soukupová

The Castle Guard took over the NAVA 2000 drinking water tanker

The special projects of Agados, the largest trailer manufacturer in the Czech Republic, also include a mobile drinking water tanker. The NAVA 2000 tanker was taken over by the Castle Guard unit, which will now use it if necessary. The new tanker, besides the field kitchen, amphibious trailer or water treatment plant, is one of the company's successful projects, used by armed forces of different countries as well as by components of the Integrated Rescue System.

The modern water tanker is equipped with a single-axle suspension heavy-duty chassis with a total load capacity of 3,500 kg, which ensures easy operation in difficult terrain. The trailer is equipped with a height-adjustable drawbar that enables towing by vehicles of different types. The tanker volume is 2,000 litres. The tanker of the following dimensions (L × W × H) 4,100 × 2,250 × 1,400 mm has a total weight of 1,020 kg (empty tanker) and 3,020 kg (full tanker). At the rear of the trailer, there is, among other things, the technology needed to operate the tanker. "The Castle Guard unit will use the tanker to transport and store drinking water in

field conditions," says Petr Ostrý, the Managing Director of Agados.
Our company, based in Velké Meziříčí, achieves success in the area of special projects. During this year's International Exhibition of Defence and Security Technologies IDET in Brno it won two awards for a unique amphibious trailer, which can operate in difficult terrain. The PK4 field kitchen, which is also used by the Castle Guard among others, has also been awarded prizes several times in recent years. Special projects of the Czech company include not only the tanker, but also a water treatment plant, a freezer or a lighting tower suitable for illumination of accident sites, workplaces, camps and in similar situations in field conditions.

Technical data

- Dimensions (l×w×h) 4.100×2.250×1.400 mm
- Total weight 1.020 kg (empty tank)
  3.020 kg (full tank)
- Cubic capacity 2000 ℓ

Advantages

- Robust chassis allows movement in difficult terrain
- Easy setting into operation state, easy manipulation
- Variability of attachable devices (towing ball, hitch etc.)
- Use of height-adjustable pole

agados® TRAILERS

3D printing from MCAE Systems helps in the production of combat vehicles

The leader in the field of military technology or number one in the Czech Republic - this is the company EXCALIBUR ARMY, which addressed us about cooperation in the production of a new combat vehicle. In a short time, they needed to solve the realization of their design of the front mask of the Patriot II, which was presented to the public during NATO Days and later at the Brno International Defense and Security Technology Fair (IDET). And just at IDET the vehicle won the Golden IDET Award. The collaboration was established and modern 3D technologies from MCAE Systems came into play.

EXCALIBUR ARMY, like our company, has been on the market since 1995, when it began trading unneeded military equipment, repairing, refurbishing and modernizing battle tanks, combat vehicles and artillery systems. It was not surprising that cooperation with leading foreign defense systems manufacturers soon followed, and the company's focus has been expanded to include advanced weapons systems and transporters. Today, the company has more than 400 employees and continues to grow due to increasing orders. They focus on the development and production of new products using proven concepts and modern technologies to meet the challenges of the armed and security forces around the world.

The Patriot II, for which we have been preparing the front mask, is designed as a multi-purpose modular platform for a wide range of missions, from transport to combat or reconnaissance to special, such as tactical medical evacuation, firefighting or bridge laying. The vehicle is still undergoing tests, but it is through first commercial success already.

EXCALIBUR ARMY was looking for a new production method and therefore chose innovative technologies from MCAE Systems. At first we discussed the concept of what a mask should look like and what material requirements it should meet. Thanks to our offer of tailor-made 3D printing services, we designed a suitable solution that fulfilled everything the customer wanted.

3D printing of a functional front mask prototype in MCAE Systems

The standard manufacturing process of this complex tangled fabric would take a full month to weld. First we divided the complicated part into two pieces in special software Magics (Materialize). They were printed on the professional Stratasys F900 3D printer, the most powerful production system with FDM technology in our offer. The printout from this printer was not only very accurate, but also very economical because the large construction volume of the printer made it possible to print the split part in a single print job. The mask was printed from ASA material, which is characterized by high mechanical strength, UV stability and high aesthetics. The part was printed at a layer height of 0.5 mm. After printing, the finishing of the entire mask was needed, from gluing the parts and aligning the unevenness to putting, spraying and grinding. This process was repeated until the result was perfect. The final point of the finishing was a special green color chosen with EXCALIBUR ARMY to match the exact color of their vehicle.

The customer appreciated the extraordinary time savings and flexibility, as the printing itself lasted only two days compared to the classical production process. After printing, the mask met all requirements - both proportional and geometric and especially functional. The model did not have to be further modified, it immediately fit into the construction of the car. The grid has been tested in simulated terrain and has been left on the vehicle and is still in use.

Publi Pro

System for intelligent information sharing – your multimedia e-library

Steve Jobs: People don't know what they want until you show it to them.

The Publi Pro publishing system is a comprehensive electronic library that allows you to manage the content and users according to your requirements. As a multiplatform server-client software system, it enables easy publication of any interactive multimedia document as well as plain text.

More than e-Book

Does your organization – a manufacturing or business company, government institution, school or authority – work with internal documents (standards, manuals, technical documentation, etc.), e-libraries, e-learning courses or video materials that it would like to make available to its employees, partners and co-operating companies from any common electronic device on-line or off-line? Then, the Publi Pro system is the optimal solution for you.

Distribution of electronic documents

Publi Pro is an intelligent system designed to distribute electronic multimedia documents. It builds on previous successful development activities and solutions in the area of sales and distribution of electronic magazines and books. Today, Publi Pro makes it possible to monitor if an authorized user has downloaded, opened or read a document. Moreover, it enables the document authors to create interactive tests and forms. This detail is so significant from the point of view of quality that it transforms the whole system into a two-way tool for collecting data from remote workplaces.

Comprehensive platform

Technically, Publi Pro is a compact, closed and encrypted comprehensive software system that includes three main, mutually communicating components: (1) Server document storage that determines user access rights to specified documents according to pre-set criteria and makes them available in software readers. (2) Client software readers for all common platforms, both computer and mobile (PC, Mac, Android, iOS, web) that safely store downloaded documents in a user's device. (3) Developer tools for document authors or administrators through which the author, or document administrator in a given organization, can give shape to the interactive document distributed throughout the system.

Publi Pro made-to-measure

The Publi Pro system is always tailored to the customer's specific needs and requirements. Over the past decade, the system has been successfully implemented in several dozens of small as well as large institutions, such as the Alter Publishing House, Continental Gallery, Charles University in Prague, Masaryk University in Brno and Technical University in Liberec. In 2019, the Publi Pro system was successfully presented at the IDET trade fair in Brno, where it was nominated for the Golden IDET 2019 award. In the same year, the Publi/eMuni platform was awarded a commemorative medal on the occasion of the 100th anniversary of the founding of Masaryk University.

***

Detailed information about system parameters can be found in the promotional materials and at the websites **https://www.aura.cz or https://publi.cz/pro**.

By Jaromír Kříž
Photo: Stadsbiblioteket Stockholm, Code Creator, s.r.o. archive

Toner s.r.o.

Toner s.r.o. runs a manufacture processing stainless steel materials for the production of high quality cutlery and modern catering utensils under the TONER trade-mark. It also offers quality stainless steel equipment for field kitchen, which compy with modern standards. TONER is the abbreviation of „tovarna nerezu" (stainless steel manufacture) carrying a message that our goods are made exclusively of noble metals. Our employees benefit from long-term experience in stainless steel processing technologies. We offer tailored-solutions to our clients – from 3D projecting and technological procedure, to tools preparation and final production. Among our clients in the EU are Bundeswehr, embassies, Parliament CR, Senate CR and many more. Toner s.r.o. is a member of DSIA CR.

High quality cutlery made in Moravská Třebová are known by generations of customers across Europe, not only under the traditional trade-mark TONER, but also under the historical marks BIBUS, SANDRIK and ROSTEX. The company history reaches back to 1883 when Franz Bibus began his famous silversmith works in Moravská Třebová. After 1918, Bibus & Sohn was the biggest manufacturer of alpaca goods in Czechoslovakia. Post-nationalization, forming a part of n.p. Sandrik and later n.p. Rostex, the enterprise was the biggest manufacturer of stainless steel cutlery in Czechoslovakia. In 1969-1973 the enterprise was ran as an independent n.p. Toner and since 1993 Toner s.r.o. has been privately owned. From 2019 our company is wholly owned by Abner a.s. whose production portfolio involves pressure cartridges for fire-extinguishers and catering-equipment using unique technologies for transport containers for modern catering and serving processes in hospitals, schools or hotels.

Main production portfolio (including manufacturing cooperation) involves :

- Stainless steel cutlery and cutlery with unique handles, tableware & catering utensils (with the option of laser-marked client´s logo)
- Field cutlery ARMY
- Stainless steel meal distribution systems using special technology (tablet-system)
- Stainless steel containers for meal transport
- Mobile purification systems for drinking and processed water (container or frame models)

www.toner.cz

How to reduce the risk of non-payment by the customer

Companies operating in the defense industry are among the most important exporters in the Czech Republic. Very often, they export to relatively exotic territories in Africa, Asia or Central and South America. Customers may be entities linked to the local government, or are private entities, or the deals are routed through an intermediary.

One type of risk that is significant to exporters is the risk of reluctance to pay or the risk of insolvency of the customer in the given country. For larger export packages or supplies, it is also necessary to provide financing, both for the exporter and sometimes for customers.

RENOMIA offers a comprehensive range of products in this area of risk, which can be grouped into three basic areas:

1. Non-payment risk insurance for repeated deliveries to multiple customers

Here it is possible to arrange a classic insurance of receivables, covering the risk of non-payment for the delivery. There are some limitations, especially it is possible to insure mostly only private entities as customers and also this product is not suitable for larger one-off deliveries. On the other hand, it will help the exporter to evaluate the creditworthiness of the business partner or possibly provide insurance.

More specialized insurers offer these products in the Czech Republic, thanks to its know-how and position on the insurance market, RENOMIA can negotiate optimal insurance conditions for clients.

2. Insurance of a non-payment risk for larger one-off delivery

For larger one-off deliveries, usually on the order of millions of EUR, the offer of these products in the Czech Republic is already limited. These are special products based on irreversible coverage, and in the defense industry, also quite often, the customer can be an entity directly linked to the local state.

In this case, RENOMIA, thanks to its international background, can negotiate special products available abroad on the basis of irreversible coverage, both with global insurers or the Lloyd's Syndicate.

3. Risk insurance in project financing

These are primarily products offered by the state export insurance company and cover the risks of the supplier or more often the risks of the financing bank. There are cases where this insurance cannot be provided by the state export insurance company or the approval process is very difficult.

In this case, RENOMIA can provide an alternative product on the foreign insurance market.

The advantage of RENOMIA is that the minority shareholder of the company is the family-owned company Gallagher based in London, with branches in several countries. Gallagher belongs to the group of the five largest global brokers and is able, in cooperation with RENOMIA, to address all the available reputable insurers around the world in order to find the most suitable solution for the given export case and territory.

Examples of successful solutions include, for example, insurance for the supply of aircraft technology to Asia, export insurance of another important member of the Defense Industry Association to Africa and other cases.

Author: Hynek Rasocha, Director of RENOMIA Trade Credit

LAND AND AIRLAND DEFENCE AND SECURITY EXHIBITION

2020

EUROSATORY

08-12 JUNE 2020 / PARIS

THE UNMISSABLE **WORLDWIDE** EXHIBITION

1,802 exhibitors **+14,7%**
from 63 countries
65,9% of international
65 startups at Eurosatory LAB

98,721
Total attendance
(exhibitors, visitors, press, organisers)

227
Official delegations
from 94 countries
and 4 organisations
(representing 760 delegates)

696
journalists
from 44 countries

75 Conferences
2,102 Business meetings made

2018 key figures

GICAT www.eurosatory.com COGES

Militarization of the Space - Protection of the Czech and Allied Interests

Tomáš Kopečný, Michal Rendla, MoD CR

The title of this article may sound to many readers as science fiction, something far away in the future, evoking images of battles between Star Wars spaceships. Let us abandon these ideas since they are most likely light years away. However, in the reality of the 21st century, the space is increasingly becoming a place where particular states enforce their interests and where competition is naturally arising. At present, one can see a certain analogy between the militarization of the space and the militarization of cyberspace, which took place about ten to fifteen years ago. Particular armies keep increasing budgets of their space programs, and considerable investments are directed to research and development activities. At what stage of militarization of the space are the cosmic activities of the world's major players? And what is the potential of the Czech Republic for engaging in cosmic activities?

Strategic Importance of the Space and Space Technology

Modern societies are largely dependent on orbiting satellites enabling positioning, communication, or weather monitoring. Hamstring of satellites could paralyze air transportation, banking systems and other services. To a similar extent, the armed forces are dependent on space technologies used for a number of activities such as communication, navigation, command and control, reconnaissance, surveillance and intelligence, and precision weapon targeting and guidance. Therefore, it is not overstated if we call these systems "eyes and ears" of modern armed forces and also one of the strategic conditions for success on the battlefield of the 21st century. In the event of an upcoming combat conflict, logically there is an effort to deprive the opponent of the information received from the satellites, either by jamming or directly destroying them. Already during the Cold War, world powers began to develop anti-satellite weapons, known as ASAT (anti-satellite weapons). So far, these were mainly missile systems. The last country after the U.S., Russia and China demonstrating the ability of the missile to shoot down the satellite in orbit was India in April 2019. However, satellites can be destroyed, or at least put out of action in by other means - by guiding the anti--satellite body to satellite, by laser systems, microwave beams, and - last but not least - by hacker attacks.

Given the outlined importance of space technologies for the armed forces of the world powers, there is relatively high probability that a potential larger--scale combat conflict in the future will begin just outside the atmosphere.

Space as a Combat Environment in Strategic Considerations of the Allies

As a future battlefield, the space was in the centre of attention, consideration and planning of political leaders and military strategists already during the Cold War. The best-known example was the SDI initiative of the President's Ronald Reagan US Administration launched in 1983, also known as the Star Wars project. Over the past few years, the identification of space as the strategic place for protection of interests and potential combat operations of the world powers has intensified, which is reflected in the development of space policies, strategies and the armed forces themselves.

Significant media attention earned the US President Donald Trump, who in June 2019 issued an instruction to establish the sixth branch of the US Armed Forces - the so-called Space Force. The creation of the new US Armed Forces element must be approved by the Congress, but the President Trump did not wait for the approval of US legislators, continued to accomplish his vision, and established the US Space Command in August 2019.

Another country declaring its ambition to strengthen its military capabilities in space is France. In July 2019, President Emmanuel Macron announced the creation of a new Space Force Command, first within the Air Force, and later as a separate branch of the armed forces. In addition, France plans to invest heavily in its space activities, namely in the modernization and protection of spy satellites, new communications and monitoring satellites, which should also carry laser weapons, and the renewal of the radar surveillance system for satellites.

With certain delay, NATO responded to these developments on the level of national states. In November 2019, ministers of foreign affairs declared the space as the fifth - after land, airspace, sea and cyberspace - a combat „operational domain". UN Secretary-General Jens Stoltenberg rejected the Alliance's aim to deploy weapon systems in the space, however, he stressed the need to protect critical infrastructure elements. Article No. 5 of the NATO Treaty concerning the Principle of Collective Defence will apply to outer space. This means, for example, that the Alliance country will be able to ask the Allied countries for help in case of the attack on their satellite.

Potential of the Czech Republic in Space Activities

Are there capabilities in the Czech Republic to get engaged in NATO's space defence capabilities, the area that requires the highest possible technological advancement, to participate in the protection of allied and purely Czech interests? We believe that there certainly is such a potential, particularly in the area of laser technology.

For many readers this may sound surprising, but the Czech Republic is a world power in the field of lasers, which is something to build on. In 1963 after the US and USSR we became the third country in the world with our own developed laser system. And even today we rank among the top. There are three unique world-class laser centres in the Czech Republic - the ELI Beamlines European Research Centre, the HiLASE Centre (both under the umbrella of the Institute of Physics of the Academy of Sciences of the Czech Republic) and the PALS Research Centre (a joint workplace of the Institute of Plasma Physics and the Institute of Physics of the Academy of Sciences of the Czech Republic).

Lasers may play an important role in many ways. In case of a suitable carrier, lasers can be used to investigate the composition of asteroids, carry out mining on their surface, or divert space bodies from their original trajectory of motion. In the future, disposal of space waste could be also based on this principle by directing unwanted bodies towards the atmosphere, where they will burn down. As with unmanned aerial vehicles or cyber technologies, the development in this field is fast forwarding. Laser technologies, completely inaccessible few years ago, are being offered on the commercial basis now.

Also the Army of the Czech Republic is monitoring this area and is becoming interested in space. By building the SATCEN satellite centre, we make another significant step forward. With the new composition of the European Commission, where defence and space portfolios are merged into one Directorate-General, EU funding is expected to increase in this area as well. And the Czech companies can make significant use of it. Thanks to the excellent work of the Ministry of Transport, our industry has been long supplying top products to the European Space Agency.

Therefore, we have an excellent starting position to participate in strengthening our interests within space military activities. And we have to be ready to become a pioneer of space technologies, and operations in this area must be further strengthened. Because in the forthcoming decades, the eyes of not only the military world will be increasingly fixed on the stars.

POLICIE ČESKÉ REPUBLIKY

MINISTERSTVO VNITRA
ČESKÉ REPUBLIKY

UNITOP ČR
UNIE TĚLOVÝCHOVNÝCH ORGANIZACÍ
POLICIE ČR

ICE HOCKEY WORLD
POLICE CUP

APRIL 14 – 20
LIBEREC 2020

INTERNATIONAL DEFENCE EXHIBITION BRATISLAVA

WILL INTRODUCE CURRENT PROJECTS OF MODERNIZATION OF THE SLOVAK ARMED FORCES

13. - 15. 5. 2020

MINISTRY OF DEFENCE OF THE SLOVAK REPUBLIC

INCHEBA EXPO BRATISLAVA

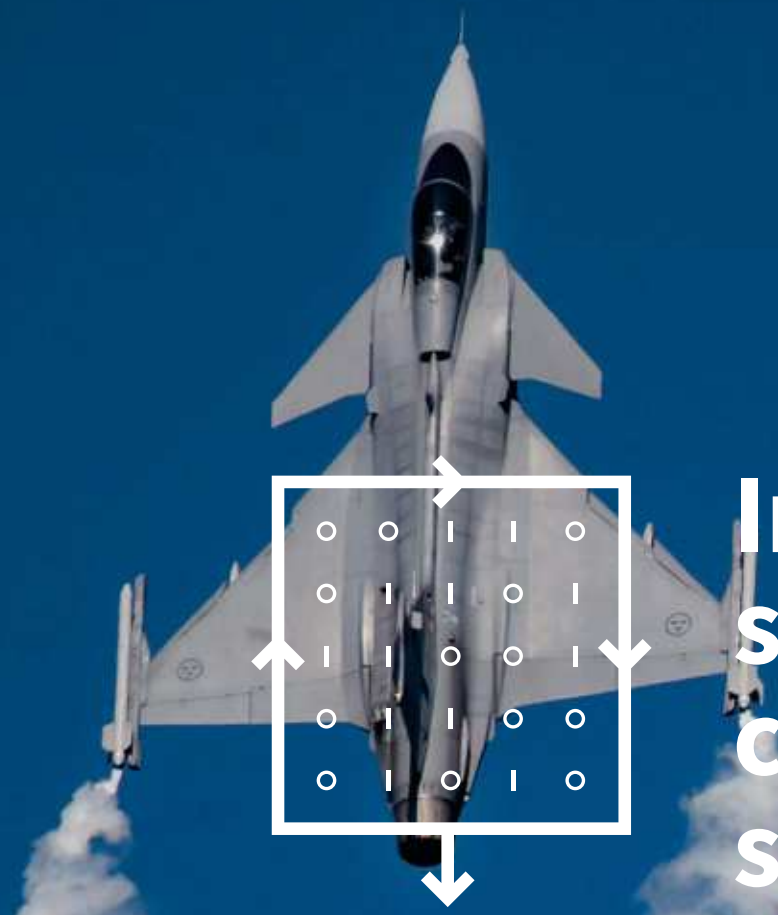
ZBOP
Association of the Defence Industry of the Slovak Republic

SECURE YOUR PARTICIPATION AND PREFERENTIAL LOCATION OF YOUR EXHIBITION STAND IN THE NEXT EDITION OF IDEB THAT WILL TAKE PLACE FROM 13TH TO 15TH MAY 2020 RIGHT NOW.

Incheba, a.s., Viedenská cesta 3-7, 851 01 Bratislava, Slovak Republic
Ernest NAGY • **T**+421-2-6727 2588 • **M**+421-903 464 920 • **E** enagy@incheba.sk

www.incheba.sk

AURA



Information systems for comprehensive support of military logistics

aura.cz

21 countries

5 continents

89 established 30 years ago