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# EDITORIAL

Dear Readers,

Let me introduce this year's first semi-annual CDIS Review, this time being published on the occasion of the international fairs ENFORCE TAC and IWA in Nuremberg, DSA in Kuala Lumpur, IDEB in Bratislava, KADEX in Nur Sultan and ADAS in Manila. Representatives of the Embassies of the Ministry of Foreign Affairs in aforementioned countries where trade fairs will be held prepared for this issue interesting information concerning mutual cooperation with the Czech Republic.

We are very pleased that the Ministry of Foreign Affairs, the Ministry of Defence and the Ministry of Industry and Trade perceive this magazine as an important periodical that helps to present the Czech defence and security industry abroad.

The CDIS Review and the Czech version of the Review for the defence and security industry have been the media platform of DSIA CR from the very beginning. Most of the companies being presented

in Review are the members of the Defence and Security Industry Association which to date counts over 100 members.

On 14 January 2020, the traditional annual editorial board was held in conference hall of the Ministry of Defence of the Czech Republic with the subsequent award ceremony. Our Publishing House and the editorial board of the Review magazines awarded personalities, companies and products of the year 2019 in the area of defence and security industry. The coverage from this event can be found at the end of this magazine.

I believe that you will find here a lot of interesting information about the Czech defence industry and we look forward to meeting you at the above fairs.

Šárka Cook  
Editor-in-chief



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# Opening Speech by Mr. Karel Havlíček

Deputy Prime Minister, Minister of Industry,  
Trade and Transport of the Czech Republic



The Czech Republic has been showing a high degree of macroeconomic stability in recent years. Its excellent results have been reflecting in the economic growth for the sixth year in a row. The current prosperity is related to the industrial orientation of the Czech economy. The economy is driven by the export of technologically advanced products, based on the application of science results and the follow-up innovation process. This focus of the Czech Republic was reaffirmed in 2019 by the government's Innovation Strategy, which concentrates national resources and activities to support the science, research and innovation, and creates an environment that will help and encourage companies in their innovation efforts. This strategy aspires to put the Czech Republic among Europe's innovative leaders while fulfilling the vision expressed in the motto "Czech Republic, The Country For the Future".

The defence and security industry is the best example of the sector that is firmly and deeply rooted in the industrial tradition of the Czech Republic and paves the way forward for the manufacturing innovation, which will impact every aspect of manufacturing processes. It represents an industry with a majority of Czech capital, employing skilled and qualified workers, who are encouraged to further increase their qualifications, which produces specialized, high-tech and high added value products. Companies are able to meet the customers' technical needs to the fullest extent possible and integrate their technology into the existing systems. For this reason, many products of the Czech defence industry are also used by the Czech Armed Forces. Thanks to the transfer of know-how, many of the applied technological solutions find their application also in civilian industries. All these reasons contribute to the fact

that the defence security industry in the Czech Republic has been doing well in the long term and exports have almost doubled over the past fifteen years. It is considered by the government as one of the priority strategic sectors, which contributes to increasing the reputation of the Czech Republic abroad and is also an expression of the state's foreign policy. The importance of this sector is also reflected in the cooperation of ministries and agencies in joint presenting the Czech defence companies at foreign exhibitions and fairs under the auspices of the Czech Republic. I can highly recommend to all visitors of these international exhibition events to see our exposition - Czech companies have much to offer.

*Karel Havlíček  
Deputy Prime Minister, Minister of Industry  
and Trade and Minister of Transport of the  
Czech Republic*



# Opening Speech by Mr. Lubomír Metnar Minister of Defence of the Czech Republic



Dear readers,

It's my pleasure to welcome you to the new issue of CDIS Review, which brings you the latest news and interesting facts from the world of Czech defence industry. Last year was the year when the Ministry of Defence successfully launched or in some cases significantly advanced forward several major armament projects.

The common denominator in these projects is the effort to involve the domestic defence industry as widely as possible, as it is in the Ministry's interest to support domestic companies through several channels, often in cooperation with other ministries.

A this-year's milestone, which took place at its very beginning, is the re-creation of the Industrial Cooperation Division, which will now intensify the above-mentioned support for the domestic defence industry. The growth and prosperity of domestic defence industry companies is in the interests of all of us, as it brings new jobs in addition to other related benefits for the state and citizens. It also improves

our prestige abroad, and last but not least, it helps to raise the expertise of our defence sector through participation in international projects or via the industrial cooperation and technology transfers.

The Czech defence industry has seen a significant boom in recent years, as evidenced by the success of both private companies and state-owned enterprises both in domestic orders and fierce foreign competition. Opportunities for the Czech defence industry are also offered by the current reorganization and expansion of the Czech Armed Forces, where I will mention, for example, the establishment of a new airborne regiment or a brand new unmanned aerial systems battalion. Both these units must have adequate technology and equipment to successfully fulfil their tasks and our defence industry can certainly help those and of course other units to be fitted with appropriate hardware, whether in the form of stand-alone systems or subcontracted solutions for more complex platforms. The Ministry of Defence is currently responding to the changing security

reality in an environment in which the Czech Republic as a whole operates and at the same time reflects the set direction of the state's defence capability development. In order to fulfil these aspects, it is necessary to build and subsequently equip our capacities with quality and proven technology and, where possible, to take into account other factors. These factors, such as security of supply or defence industry involvement in the crisis management system are of the vital importance to the state's ability to react on maybe the low-probable, but unpredictable and potentially high-risk situations.

I believe that the trend of expanding the reputation of the Czech defence industry will continue and I am proud that Czech companies will stand up to tough foreign competition and contribute to building the reputation of our country beyond our borders.

*Lubomír Metnar  
Minister of Defence of the Czech Republic*



# Opening Speech by Mr. Miloslav Stašek

## State secretary of the Ministry of Foreign Affairs of the Czech Republic



Dear Readers,

It is my pleasure to introduce you the latest CDIS Review. The importance of the Czech defence industry is indisputable. This sector is crucial to our economy and I am delighted to speak directly to you through CDIS Review.

The defence sector is one where the cooperation between the private and public sector is necessary and inevitable. I am proud to say that the Ministry of Foreign Affairs and our embassies have effective tools to help promote and strengthen the position of Czech companies abroad.

The world trade is shifting and the focus is on non-European territories. According to studies, by 2035 most of economic growth and over 70 % of trade will take place outside of the EU.

Especially outside Europe, the importance of economic diplomacy is crucial. In this regard, I would like to mention the importance of projects of economic diplomacy, the so-called PROPED. Last year, we (in cooperation with the Ministry of Defence) organized 28 missions to the United Arab Emirates, India, Israel, Colombia and many others for approximately 5.5 million CZK.

I stress the importance of the role of embassies and their services because approximately 90 % of defence products manufactured in the Czech Republic are exported. The total defence exports in 2018 were around 14 billion CZK, in a 2020 the prediction is the same. Moreover, the defence sector is also an important innovator and creates high-end, technically complex products.

I strongly believe that if we join forces, we can further promote our industries abroad while preserving their unique quality and prestige.

*Miloslav Stašek  
State secretary of the Ministry of Foreign  
Affairs of the Czech Republic*

# Message by Mr. Jiří Hynek

## President of Defence and Security Industry Association of the Czech Republic



Dear exhibitors, dear visitors,

Czech defence and security industry is well known for its long-term history, unique structure, high-quality products and huge innovation potential. Czech producers of military material always had to fight with limited options of the domestic customer given by the small size of our country and its armed forces. Therefore, Czech producers of defence and security technologies had to constantly innovate their products that must be competitive mainly in foreign markets where we export 90 % of our production. Competitiveness of Czech products, the whole scale of professionals and good name of the traditional Czech arms industry create the cornerstone of Czech companies' export potential.

Majority of companies that present their products in this Czech Defence Industry & Security Review are members of the Defence and Security Industry Association of the Czech Republic (DSIA). For more than 20 years of its existence gained DSIA reputation of the acknowledged representative of the Czech defence and security industry, an important partner of Ministry of Defence, Ministry of Interior, Ministry of Industry and Trade and Ministry of Foreign Affairs. DSIA cooperates with the Parliament of the Czech Republic, in particular with the Foreign, Defence and Security Committee of the Senate and the Defence and Security Committee of the House of Deputies. DSIA represents the Czech Republic in NATO Industry Advisory Group (NIAG) and is present in structures of the Aerospace and De-

fence Industries Association of Europe (ASD). Their relations are stepping stones for efforts of the Czech defence and security industry to be involved in specific European, transatlantic and international projects.

It is my pleasure to say that Czech products of the defence and security industry belong to the world top products and satisfaction gives the main reference of customers around the globe. I wish to all visitors and exhibitors to enjoy the exhibition and Czech defence and security products and services.

*Jiří Hynek*

*President of Defence and Security Industry  
Association of the Czech Republic*



# Establishment of Industrial Cooperation Division

## Czech Ministry of Defence Strengthens its Support to Defence and Security Industry

Building on the long tradition of the Czech Defence Industry, the Ministry of Defence has resolved to strengthen its support to defence and security companies and, thus, further contribute to the reputation of the Czech Republic as a capable and reliable partner when it comes to defence. And so, at the beginning of 2020, the Industrial Cooperation Division (ICD) was established. Facing new security challenges emerging during the last few years, even the Czech Republic doesn't want to lag behind. The rapid changes in defence technologies in line with an even more complex international security environment have both stimulated significant changes in the field of defence and operational preparedness. The ICD, headed by Deputy Minister of Defence, Mr. Tomáš Kopečný, reflects the Czech efforts to adapt, innovate and strengthen its

defence capabilities and capacities just as deepen the already existing defence-industrial relations with its allies.

### Industrial Cooperation Division: What is behind?

The ICD's teams cover four specific areas of industry cooperation: international defence-industrial collaboration, defence research and development, market research, and creation of methodology and subsequent coordination of defence projects financed from the European funds. The ICD serves for more effective and considerably bigger support and development of the Czech defence industry.

The Ministry has done such institutional reinforcement primarily because of the need to secure Czech defensive capabilities in a

time of crisis, when the supplies of military material and services, especially of those strategic ones, must be ensured. The self-reliance, mirrored in defence industrial and technological base, significantly contributes to the state's resilience. However, as the Czech Republic cannot cover all the areas necessary for upholding the above mentioned, the strategic partnerships in the form of bilateral and multilateral cooperation are indispensable. For that reason, the ICD facilitates the approach of the Czech defence companies to foreign markets and cultivates the relationships of defence industries domestically as well as internationally. The key to success lies in long-term engagement, building personal ties, and finding local business partners.

What does it mean in practice? The ICD presents the central contact point for the





Czech defence industry. The MoD's specialists provide the necessary information and administrative help to respective companies with regard to military export, orchestrate Industry Days and several specialized forums and seminars. They build the connections between technical universities, defence and security companies, and technology innovation labs, present focused market analyses, and relocate finance to R&D defence projects, in which the provider of monetary funds is the Ministry of Defence.

At the international level, the ICD pursues the Czech interests and look for the opportunities, which may contribute to higher involvement of Czech companies. Be it in the form of defence projects of economic cooperation, active participation in various international defence exhibitions (such as EUROSATORY, DEFEXPO, IDEX, DSEI), official defence missions, bilateral meetings, and joint defence commissions or within the realm of the European defence industrial development programme, the European Defence Fund or NATO's standards and interoperability. The ICD, therefore, purveys the often-necessary references and guarantees of the government to Czech companies, as they can better penetrate the foreign market and then conclude the desired contract.

#### 2020 and Further Prospects

Less than three months passed, and the ICD has already demonstrated its priorities. European and Transatlantic defence-industrial cooperation, higher involvement of the Czech defence industry in the contracts (localization of production), setting up the proper ways for the government-to-government deals, as well as the appropriate crisis mechanism. All the steps draw on the current Strategy of Armaments and Defence Industry Development 2025. From the regional perspective, the already

undertaken foreign missions of the Deputy Minister to Senegal, Ethiopia or Djibouti indicate that sub-Saharan Africa will have significant attention. The plans for this year, nevertheless, also outline the intent to intensify defence-industrial relations with a considerable number of foreign partners, which are based on the endeavour and achievements gradually built-up during the last few years. The scope of external engagement is broad and includes the South and Southeast Asia (namely, e.g., India, Thailand, Philippines, or Indonesia), Central Asia (Kazakhstan and Uzbekistan), North America, Western Balkans countries and of course the framework of cooperation with NATO and the EU allies (also covering the narrower regional formats such as V4).

To conclude, the constitution of ICD reflects the utmost importance of the Czech defence industry when it comes to a state's ability to resist the range of threats. Besides the assurance of Czech supplies of required weaponry and technology in a time of crisis, the defence industry represents an important tool of Czech diplomacy, which enables to spark strong partnerships not just in defence and security. The Czech preciseness and ability to come up with sophisticated solutions and to offer great aviation and land technology, nanotechnologies, telecommunications, laser systems, robotics, and unmanned aerial vehicles, marks the country as a trustworthy and reliable partner. And the task of ICD is to preserve the favourable reputation and further support the Czech economy and interests across the globe.

*For further information about the current ICD's activities visit the official Twitter account of the Deputy Minister of Defence, Mr. Tomáš Kopečný @Tomaskopecny\_CZ or the official website of the Ministry of Defence [www.army.cz](http://www.army.cz).*



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# Czech – German Business Relations

Germany has long been the most important trading partner and also the main export destination of the Czech Republic. On the other hand, the Czech Republic remains the 10<sup>th</sup> most important trading partner for Germany (12<sup>th</sup> most important export destination and 7<sup>th</sup> most important importing country). The most important trading partners within Germany are Bavaria (23.5 % of foreign trade with Germany), Baden-Württemberg (15 %), North Rhine-Westphalia (13.8 %) and Lower Saxony (8.3 %).

Although Germany's GDP growth declined to +0.6 % in 2019 from 1.5 % in 2018, Germany still remains Europe's largest and most advanced economy. GDP per capita last year reached 46,500 USD and the current account of the country was in surplus of 276 billion USD.

Czech-German economic relations remain on the growth trajectory even at the time of the economic slowdown of the German economy. Between January and October 2019, mutual trade maintained an upward trend and the Czech Republic strengthened its active balance. Total turnover reached EUR 80.3 billion, of which EUR 47.37 billion was exported to Germany and EUR 32.95 billion for imports into the Czech Republic. Compared to the same period of 2018, turnover in current prices increased by 1.6 %, while Czech ex-

ports increased by 2.2 % and imports from Germany by 0.8 %. The positive trade balance of the Czech Republic increased from EUR 13.64 billion to EUR 14.41 billion.

Despite the positive figures, this is a significant slowdown in the growth rate of mutual trade, which continued to grow at 5.4 % year on year in 2018, reaching EUR 94.69 billion, of which exports to Germany reached EUR 55.58 billion (+ 5.7 %) and Germany imports EUR 39.11 billion (+ 4.9 %). Czech-German foreign trade grew for the ninth consecutive year in 2018, reaching historically highest values.

Trade turnover of the Czech Republic - Germany in 2017 and 2018, in EUR billion

	2017	2018	%
Exports from the Czech Republic	52,58	55,58	5,7
Imports to the Czech Republic	37,29	39,11	4,9
Turnover	89,88	94,69	5,4
Balance	+15,28	+16,46	

Source: Czech Statistical Office

The commodity structure of Czech-German trade has remained stable in recent years. The key items are three commodities - motor vehicles, machinery and electrical products - which account for 54 % of Czech - German trade and their turnover increased by an average of 10 % last year.

German companies are among the most important entrepreneurs, employers and investors in the Czech Republic. Companies such as Škoda Auto, RWE, E.ON, Innogy, Siemens, Robert Bosch and Kaufland and many others are among the drivers of the Czech economy. They also make a significant contribution to Czech exports. The Czech Republic is one of the most popular and safest countries among foreign investors.

The first major German investment in the Czech Republic after 1990 was the Volkswagen Group's investment in Škoda Mladá Boleslav, which ranks among the three largest and most successful foreign direct investments in the Czech Republic ever. At present, more than 4,000 active German companies operate in the Czech Republic and their

Macroeconomic indicators of the German economy including the forecast up to 2022:

	2017	2018	2019	2020	2021	2022
GDP growth (%)	2,5	1,5	0,6	1,2	1,4	1,3
GDP per capita (USD)	44334	47662	46564	47992	50149	52165
Inflation rate (%)	1,7	1,9	1,5	1,4	1,7	1,9
Unemployment (%)	3,8	3,2	3,0	3,3	3,4	3,4
Current account balance (USD billion)	295,8	289,5	269,1	261,0	259,0	260,4
Population (million)	82,7	82,9	83,0	83,0	82,9	82,9
Competitiveness	3/135	3/140	7/141	—	—	—
OECD export risk	—	—	—	—	—	—

Source: IMF, OECD, WTO



number continues to grow. Most German investment in the Czech Republic has long been directed to the production of motor vehicles; electrical equipment; trade, commercial and financial services.

Currently, approx. 200 German companies poses majority shareholding from the Czech Republic. Examples include RD Germany (construction of family houses), Mitas (export of tires for commercial vehicles and rubber products for industry), Triton (exporter of special constructions for junction boxes and data centers). In recent years there have been new big investments from the Czech Republic to Germany. Among the most important are CEZ's investments in offshore and onshore wind parks, Agrofert Holding's entry into the Stickstoffwerke Piesteritz nitrogen plant in Saxony-Anhalt, EPH and PPF's investments in LEAG's lignite mines in Lusatia and MIBRAG (Saxony-Anhalt). Penta Group's investment in the German company Gehring Technologies (manufacturer of honing machines) or the supply of a total of 94 trams from the ForCity family from Škoda Transportation to Chemnitz, Mannheim, Heidelberg and Ludwigshafen.

Czech-German economic cooperation for many years has not only been about business, but companies are increasingly interconnected by joint research, development and innovation. The bet on research and development and the use of state-of-the-art technologies and innovative solutions is the only way that Czech and German companies can ensure global competitiveness.

Last but not least, the German and Czech economies face similar challenges - especially the competitiveness of

our industries in the digital age. The mastery of the fourth industrial revolution, the so-called Industry 4.0, is at the forefront of our national policies and funding programs, as the „Innovation Strategy of the Czech Republic 2019-2030: The Land of the Future“ adopted in 2019 shows. Industry 4.0 is also an important topic in German-Czech cooperation at both governmental and company level.

Innovation is also the main theme of the Czech-German Innovation Festival, which is traditionally organized by the







Embassy of the Czech Republic in Berlin together with the Czech Center and Czech Invest. This year's 5<sup>th</sup> edition will take place on 28. 4. 2020 this time on the topic of „new mobility“, which will include alternative engines, autonomous driving as well as artificial intelligence.

### Defence-industrial cooperation

From the perspective of defence-industrial cooperation, Germany is an essential partner of the Czech defence and security industry, in terms of structural, economic and technological development of the Czech defence-industrial base. Also, the fact that 89 % of German defence and security companies have their own R&D capacities is a significant added value in terms of the innovation potential of Czech companies. In particular, the development of joint production companies and the involvement of Czech manufacturers in the subcontracting chains of large German companies and large European consortia with German participation, especially in the field of ground technology, electronics, aerospace industry, seem to be promising. This trend is confirmed by official statistics: in 2014, record exports of military equipment to the Federal Republic of Germany amounted to EUR 39.4 million. Exports to Germany ranged from EUR 15 to 21 million in 2015-18 (2015: EUR 15.1 million, 2016: EUR 21.703 million, 2017: EUR 17.395 million, and in 2018 Czech exports amounted to EUR 15.440 million EUR.)

The Ministry of Defence of the Czech Republic has long supported Czech - German initiatives leading to closer cooperation between the German prime contractor and the Czech defence and security industry. The institutional expression of this support is also the renewal of a separate section of industrial cooperation of the Ministry of Defence of the Czech Republic from 1 January 2020.

For example, Czech-German Industrial Days (the first event of this kind took place in Prague on 14 March 2017) or the official representation of the Ministry of Defence at trade fairs (eg ILA Berlin 2016 and 2018). The participation of German defence and security industry companies at trade fairs in the Czech Republic (eg IDET 2019) is also supported.

The participation of Czech and German entities and defence and security industry companies in current European

initiatives, in particular the European Defence Industry Development Program (EDIDP), is also a great opportunity for cooperation.

### ILA Berlin

The International Air and Military Fair ILA in Berlin is the largest (and oldest) fair of aviation and military technology in Germany. The last edition took place in 2018 (25-29 April) and was thematically focused on innovations and new technologies - digitization, metallic 3D-printing, connected mobility, etc. US companies were also strongly represented with regard to the upcoming Bundeswehr tenders. In 2017 alone, the share of public procurement for the DE Army amounted to EUR 7.8 billion of total aviation turnover of EUR 40 billion.

Although ILA has already lost its character as a contracting fair, it remains an important trade fair with a strong military focus, as evidenced by the traditional participation of more than 1,000 exhibitors and 180 000 visitors from 41 countries. The next edition of the trade fair will take place in May this year (13 - 17 May 2020) and 7 Czech companies have already reserved their stands here, eg Aircraft Industries a.s. or GE Aviation Czech.

More information about ILA Berlin can be found under  
<https://www.ila-berlin.de/en>

Ondřej Karas  
Embassy of the Czech Republic in Berlin





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# OPTOKON – THE BIRTHPLACE OF INNOVATION

OPTOKON, a.s. is a leading global organization providing connectivity and infrastructure solutions for organizations of all sizes. OPTOKON, an ISO 9000 approved company provides complete networking solutions unrivalled within the industry today. OPTOKON is a producer and supplier of premium active and passive fiber optic components specializing in fully tested integrated data network, FTTx and tactical military solutions. OPTOKON components and solutions can be found in applications in businesses, communities and armed forces throughout the world. OPTOKON military products are NATO approved under supplier code 1583.

The OPTOKON success story is simple: meet customer needs with quality products delivered on time, every time, and at a fair price with world-class service. OPTOKON is committed to forming long-term relationships with its customers through excellent R&D activities based on the newest technology. Electromagnetic compatibility (EMC) is an important requirement for various OPTOKON products with the necessary product R&D activities EMC managed. This has been a key reason for the OPTOKON management decision to increase EMC development and implement the measurement facility as next improvement steps. The new semianechoic chamber is one of these steps. The future intention is to exploit the semianechoic chamber for OPTOKON laboratory development activities.

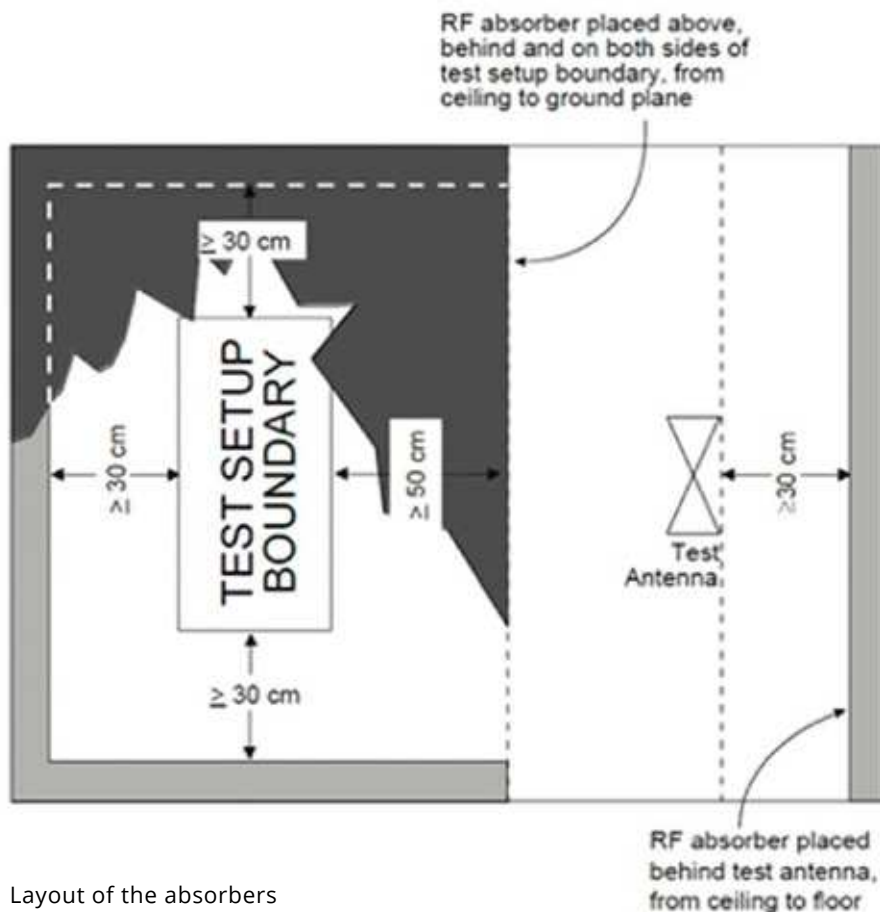
## The OPTOKON semi-anechoic chamber

To prevent interaction between the equipment under test (EUT) and the outside environment, a shielded enclosure is usually required for the EMI (electromagnetic interference) and EMS (electromagnetic susceptibility) testing (EMI+EMS=EMC). The enclosure prevents external signals from contaminating emission measurements and preventing susceptibility test signals from interfering with electrical and electronic items in the vicinity of the test facility.

The chamber meets all the MIL-STD

461G requirements for the certified EMC measurement of the tests: CE 101; CE 102; CS 101; CS 114; CS 115; CS 116; RE 102 and RS 103. The design of the chamber meets the field intensity minimum 50 V/m for the susceptibility tests. The shielding effectiveness measured according to the EN 50147-1 is stronger

than the EN 50147-1 recommendation. The shielded enclosure consists of shielded modular panel sections assembled with a clamping system into a self-supported enclosure. The 28-gauge galvanized steel sheets are laminated to a high-density particle and/or plywood board core. The panels



Layout of the absorbers



are joined together with an extruded "hat" and "flat" and "cove" clamping system to provide uniform and consistent pressure contact against the shielded panel mating surfaces. These structural clamping sections are zinc plated to resist corrosion and joined with self-taping zinc plated fasteners spaced four inches on the center to ensure a secure shield. The corners of the shielded room are secured with precision-machined trihedral end cap sections. To maintain electrical isolation, a dielectric vapor barrier and underlayment are placed beneath the shielded floor panels. Counter-sunk floor screws in the clamping system ensure a smooth floor surface.

The shielded enclosure has an attenuation of at least 6 dB below the allowable specified limits when the tests are conducted with the ETU de-energized and all auxiliary equipment turned on. The power line filter, 2-line, single-phase, 2x32A, 230V, AC 50Hz is suitable for AC single phase (2x30A) and DC 48V, 32A, and the required attenuation. RF certified absorbers are used to re-

duce reflections of electromagnetic energy and to improve accuracy and repeatability when conducting electric field radiated emission or radiated susceptibility testing. Minimum absorber effectiveness is 6 dB for the frequency 80 MHz – 250 MHz and 10 dB for the frequency above 250 MHz. The layout of the absorbers in the chamber complies with Figure 1. For absorber material, a unique two-step impregnation process to maximize carbon distribution uniformity has been used, which achieves higher performance consistency and better fire resistance. The urethane foam block is first compressed and submerged in a mixture of dielectrically-matched conductive carbon suspended with a mixture of neoprene latex. The foam absorbs the carbon-neoprene mixture, permeating the foam cells and ensuring complete distribution. The second step utilizes a solution of fire retardant ingredients. This two-step process enables to uniformly impregnate the absorber, giving rise to its consistent RF performance over a broad frequency band.

The test bench is as follows:

- MIL-STD-461 compliant test table
- For use in the chamber
- Dimensions  
**L x W x H = 2.5m x 1.0m x 0.9m**
- Wooden construction with galvanized steel ground plane on top





LMSW-E33 switch



LMSR-R63 router

- Quick release grounding set up, comprising:
  - F-type grounding rail on the chamber wall, with Cu-Be contact fingers
  - Horizontal galvanized steel straps for plug-in connection between the table and the rail
- 200kg max permissible load, evenly spread.
- Including wheels with brake (lockable castors).

#### **OPTOKON provides unrivalled solutions**

The above described semianechoic chamber provides OPTOKON with an excellent opportunity for R&D flexibility, manufacturing flexibility and quality improvement. We also expect an increase in customer satisfaction.

High-security broadband access for voice, video, and data communications are essential to accomplish military support tasks for battlefield or emer-

gency responders and to maintain high-value infrastructure.

Lives often depend on communication devices operating in hostile environments and the climate as tasks have to be performed in the most inhospitable and harshest places.

Given these increasing demands, OPTOKON also offers its rugged network portfolio with the Cisco Platform and has expanded its range of robust embedded IT systems for use in harsh environments. These are the new LMSW-E33 series Ethernet Switches and the LMSR-R63 Series Router, the ideal networking solution for many defence and crisis management applications. The company is significantly assisted in this by the newly installed anchoring chamber for EMC / EMI measurement according to MIL-STD-461.

The LMSR-R63 router offers significantly faster encryption throughput than in previous generations to meet the increased bandwidth needs of rapid

sensor data and video stream growth. The compact design, broad configuration options in the Cisco IOS XE operating system and the optimized power consumption provide OPTOKON partners and product integrators with the flexibility to design their own defence, transportation, mining and other critical control and command areas. The LMSR-R63 is a tactical field router supporting both analog FXS and digital VoIP telephony. It is designed to ensure voice communication and data transfer at command and control posts from battalion level to platoon level.

Mobile and fixed tactical and control stations require voice services that are simple and easy to use, quickly deployable and permanently available. The OPTOKON family of tactical telephony solutions is now being expanded to include the LMSR-R63 router with integrated 16-port analog voice gateway. This works with the integrated Cisco Unified Communications Ma-



nager Express (CUCME) digital support to support up to 48 IP phones. The LM-SR-R63 is ideal for deployment in tactical ground, missile defence, and other limited SWaP platforms that use Ethernet backbone networks.

The new generation of LMCP computing platforms is optimized to meet specialized MIL-STD-810/461 rigidity requirements and high port density and throughput. The L2 / L3 Switch LMSW 3300 series with two 10 GbE uplinks, and up to 24 1GbE PoE ports, now offers up to 44 Gbps line-rate multi-layer forwarding

OPTOKON also offers the LMIPT-41 based on the enterprise Cisco 8841 platform and the smaller LMIPT-21 based on the Cisco 8811 as appropriate military hardened IP phones. The LMIPT IP series provides high-quality, secure VoIP communication. Flexible deployment options help to reduce costs and maximize investment. Remote workers can gain access with a single sign-on using Cisco Expressway. For remote workstations, a traditional robust analog phone LMAT-116 is available.

A complete revision of telecommunications can sometimes be impractical, too expensive or technically impossible. Our analog voice solution provides a wide range of solutions for connecting analog voice technologies to modern IP commu-

nication networks. Many organizations still use analog devices, such as telephones, faxes, and modems, and want or need to continue using analog after migrating to IP telephony. Such important cases include:

- Telephone stations within miles, while IP telephony over Ethernet has a theoretical range limit of 100m.
- Limited cabling. Analog telephony works with one pair of wires, as opposed to 2 to 4 pairs for IP solutions.
- No local or PoE power available, while the analog phone has no power requirements.
- Budget constraints during the transition to unified communications. You can mi-

grate at your own pace in parallel with both technologies.

- Rough environments in which analog phones often have better durability.

For security, the Cisco IOS XE Enterprise-grade can route and switch highly secure voice, video and data communications. The Cisco IOS Firewall responds to sophisticated network attacks and threats.

*Ing. Petr TYRACEK, Ph.D., MBA  
Chairman of OPTOKON, a.s. Technical  
and Innovation Council*



LMCP-41H

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# Czech – Malaysian Business Relations



Today, Malaysia is a significant regional and global partner for the Czech Republic, and the two countries share a diverse and expanding partnership in trade, investment, environmental cooperation, and educational and cultural relations. Economic ties are robust, and there is a long history of people-to-people exchanges. Malaysia has a diverse democracy and is a key partner of the Czech Republic in South-East Asia being No.1 ASEAN trading partner. The mutual trade turnover between the Czech Republic and Malaysia reached the record height of USD 1,5 bil. in 2019 (January – October). The cooperation in the defence indus-

try is one of the most important anchor of our economic relations. The Czech Republic plays a vital role to assist Malaysia in modernizing armed forces being it air or terrestrial and enhancing their defence capabilities. As a traditional producer and exporter of defence technologies, the Czech Republic is ready to cooperate with Malaysia not only in the area of defence technology supplies, but also in the education of their military personnel. Military flight simulations is another area to be explored as it reduces significantly the mission preparation time and provides the economic advantage over training in a real military flight jet or aircraft.

The 17<sup>th</sup> Defence Services Asia Exhibition and Conference (DSA 2020), which is held biennially for 3 decades since 1988, being a traditional platform for the Czech companies to display their latest defence technologies and to seek new business partners for cooperation. The Czech Ministry of Defence leading the business delegation this year is looking into the possibilities to ink down the long-term cooperation in the near future.

Cooperation in science, R&D and innovations is also on top of our promising field of our bilateral cooperation. Industry 4.0 is one of the most important prerogatives for future competi-

veness for the Czech Republic as well as for any other country, including Malaysia. Industry 4.0 is the way forward not only in industrial sector, but also for services and construction industry. Another successful area of Czech-Malaysian cooperation is the green technologies. The recent visit of the Czech Minister of Environment Mr. Richard Brabec convinced us about the vast potentials. In particular, Malaysia aims to lead the development of a circular economy in Southeast Asia. The waste becomes recently a valuable resource, to be recycled as raw material, made into new products, and not thrown away. For example, plastic recycling industry had already contributed USD 1,2 million to the Malaysian economy. By 2030, Malaysia thrives to have a green tech sector contributing USD 15 milli-

on to the GDP, with an interim target of USD 5,5 million in 2020. Further, several initiatives have been developed to help hit these targets and establish Malaysia as a green technology hub in the ASEAN region.

With the view of Malaysian eagerness to explore its mining sector, the Czech geological companies are ready to cooperate in the prospecting of Malaysian deposits as well as in the area of geological mapping and environmental issues related to mining activities. The Czech Republic being the renowned producer of crystal glass is ready to assist Malaysia in exploiting their quality silica sands in both peninsula and Sabah/Sarawak.

Agriculture remains an important sector of Malaysia's economy, contributing 12 percent to the national GDP

and providing employment for 16 percent of the population.

Czech Republic is keen on assisting Malaysia to revitalize its agricultural sector, and adopting the so-called smart farming or precision agriculture. The Czech Republic is looking forward cooperating with Malaysian partners across all the sectors. The gateway for doing business and expanding further between the Czech Republic and Malaysia is wide open.

*Renata Brandstätterová  
Economic and Trade Counsellor  
Embassy of the Czech Republic  
in Kuala Lumpur*





# The amphibious off-road trailer by AGADOS became the Exhibit of 2019

Last year's novelty, the amphibious trailer for all types of terrain, presented by Agados won another award. After the Golden IDET 2019 and the Bronze IDET News, it became the Exhibit of 2019.

The amphibious trailer is primarily designed for wheeled and tracked vehicles for all types of terrain. The patented system of independent suspension in each wheel is an indisputable advantage. While using unique skis, the trailer can be easily operated in difficult terrain such as snow, mud and rocky terrain. The advantage of this newcomer is also the ability of overcoming sources of water, when the trailer

is able to float behind a towing vehicle. The useable load area, whose payload capacity is up to 1500 kg, is made up of interchangeable modules for various uses not only in extreme conditions. It is a two-axle suspension trailer with four fifteen-inch wheels with a total weight of 3500 kg. The trailer is equipped with a height-adjustable drawbar that enables towing by vehicles of different types.

The new trailer, which are already being used by foreign armed forces, can serve as a waterproof box, tank, open plateau, 8-10-foot container carrier and tilting superstructure flatbed with tarpaulin. It is also ideal, for example, to transport a generator. The modules are attached to the bottom frame at four anchoring points and secured with pins. The trailer has two salvage eyes at the rear.





### Advantages

- Possibility of transporting all kinds of military material
- Variable anchoring of transported military material
- Possibility of using the trailer in all types of terrain, even overcoming sources of water
- Possibility of blocking overrun brake for off-road transport
- Patented system of independent suspension in each wheel
- System of superstructure modules

### Technical parameters

- Dimensions (L×W×H) 4800 x 2182 x 2240 mm
- Total weight 3500 kg
- Payload: 1500 kg
- Braked, two-axle trailer (4 half axles)
- 15-inch wheels including spare wheels



Other special products introduced by AGADOS in the past include, besides the new amphibious trailer, were the PK 4 KAGA mobile field kitchen, the larger PK 6 field kitchen, the NAVA 2000 mobile tank, the UVA 500 water treatment plant or the freezer box for preserving fresh food even in extreme conditions. Furthermore, the company offers chassis for gensets and a mobile lighting tower suitable for illuminating bases, areas of accidents, fires, etc. AGADOS is focused on the production of trailers of all categories. In this area, it is a company of European importance - half of the production is exported. Over just a year, more than 20,000 trailers were produced. AGADOS's production grows year by year due to growing interest in its products and at the same time the company expands its rich portfolio.





# Cooperation between Czech and Slovak defence and security industry

The Czech Republic sees Slovakia as a key economic partner. We are interested in further improving our above-standard relationships. Both countries are highly open economies with great export potential. They are strategically located in Central Europe.



The Czech Republic and Slovakia have cost-effective, skilled workforce with excellent multilingual skills. Potential for research, development and innovation is great. Slovakia furthermore uses euro currency. Both countries have been experiencing an ongoing economic expansion, driven by continually increasing domestic demand, net exports and booming

investments. Unfortunately both economies lack the qualified workforce that must come from abroad.

Slovakia is our fourth largest business partner after Germany, China, and Poland with 6.1 % share of the overall Czech foreign trade in 2019, the second largest export market after Germany with 7.6 %

share of the overall Czech exports in 2019, and the fourth largest import market with 4.4 % share of the overall Czech imports in 2019.

Czech export to Slovakia increased by 4.3 % year-on-year in 2019 and reached about 14 bil. EUR. The Czech Republic exports to Slovakia mainly car parts and equipment,



passenger cars, electricity, mobile phones, mineral oils, automatic data-processing machines, medicines, lighting or visual signaling devices and equipment, plastic products, tires, electric conductors, ignition cable sets, iron and steel products.

Slovakia is the third largest destination for Czech direct investments. Czech companies invest in Slovakia mainly in energy sector, mechanical engineering, chemical industry, food processing, telecommunication, defence and security industry, electrotechnical industry, commercial real estate, gas stations, and media.

The Czech Republic is for Slovakia the second largest business partner after Germany, the second largest export market after Germany with 11 % share of the overall Slovak exports in 2019, and the second largest import market after Germany with 10 % share of the overall Slovak imports in 2019.

Slovak exports to the Czech Republic decreased by 3.2 % year-on-year in 2019 and reached about 8.5 bil. EUR. Slovakia exports to the Czech Republic mainly car parts and equipment, mineral oils, igni-

on cable sets, iron and steel products, passenger cars, car engines, electricity, medicines, televisions, plastic products.

Slovakia is the eighth largest foreign investor in the Czech Republic. Slovak companies invest mainly in metallurgy, aircraft industry, financial services, media, residential and commercial real estate, health care, tractor production, and gas industry.

The Czech Republic and Slovakia are key partners in defence and security industry. We are allies and members of NATO. We take part in joint military missions and we created a joint unit in Battle group within V4 countries. We wish to cooperate on mutual projects and other projects as part of NATO, the EU, and the V4 countries.

Czech and Slovak armies cooperate in gradual unification of small arms. From the point of interoperability, the Czech and Slovak soldiers will have the same tactical conditions for performing the international crisis management tasks.

Both countries are interested in strengthening cooperation in crisis management, joint acquisition of military material, mo-

dernization of military equipment and gear, training and education. Prime Ministers of both countries called for a joint acquisition of military material in September 2019. The Czech Republic and Slovakia already cooperate in mutual protection of airspace.

Defence and security industry has a key potential. Both countries have traditional manufacturers and an extraordinary knowledge. It is necessary to cooperate in penetrating new markets. Our markets are small and the international competition is very strong.

The Long-term Capability Development Plan on Defence until 2030 offers new opportunities for Czech defence and security companies in Slovakia. Approximately 9 billion EUR should be invested into the modernization of Slovak armed forces. The Ministry of Defence plans to buy about 400 new multipurpose tactical vehicles 4x4, air surveillance and reconnaissance equipment, anti-tank guided missile systems, artillery systems, medical support equipment, and other products.

Slovakia is currently investing about 1.7



per cent of GDP for its defence. Slovakia promised NATO to build a heavy mechanized brigade by 2030. Slovak government approved the purchase of 14 most modern fighter jets F-16 Block 70/72 in 2018, which will replace 12 outgoing Russian fighter jets MiG-29 by the end of 2023 year.

Czech and Slovak defence companies cooperate in different projects. Czechoslovak Group (CSG) and MSM Group cooperate in the production of different types of military material like weapons, ammunition, vehicles, containers / shelters, ground-based elements for the airports. They also cooperate in design, manufacturing and servicing of radio navigation systems for air traffic control, in overhaul and maintenance of military vehicles, in pyrotechnical services, information and communication technologies or in authorized service of Tatra trucks. CSG and MSM Group cooperate in the production of armored combat infantry vehicles Patriot as well.

Helicopter training center in Košice is another successful example of cooperation in defence and security industry. Czech company European Air Services and Slovak company MSM Group opened the training center for helicopter pilots - Slovak Training Academy - at the airport in Kosice in October 2017. Companies invested 25 mil. USD in the training center that uses both simulators and helicopters Black Hawk. The center trains about 70 army and rescue pilots a year.

Czech company Česká Zbrojovka, a manufacturer of high-quality firearms, supplied about 26 thousands CZ service pistols to Slovak armed forces in last years. Czech manufacturer of ammunition Sellier & Bellot regularly supplies ammunition to Slovak armed forces.

Czech manufacturer of commander and gunner sights for special military vehicles and electro-optical systems for guarding

frontiers, the company EVPU Defence, collaborate with its mother company EVPU in Slovakia in integrating its products into remote-controlled weapon stations such as Turra 30.

Czech company ERA, a leading company in multilateration, multistatic surveillance, and reconnaissance technology, should supply unique passive surveillance system VERA-NG to Slovak army.

Czech companies can participate in Slovakia in producing howitzers Zuzana 2 or in renovating the military airport in Sliač.

*Jaroslav Remeš  
Commercial and Economic Counsellor  
Embassy of the Czech Republic in Bratislava*





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# Aero Vodochody – to 2020's in full speed

Aero Vodochody expects a good year. The biggest Czech aerospace manufacturer expects to double its revenues in 2020 thanks to its activities in MRO, Aerostructures and significant progress in project of its new light attack and training jet aircraft – L-39NG.

Aero Vodochody celebrated 100 years of its existence last year and it has a really impressive track record: 11.000 aircraft produced, over 6.500 of them indigenous jet trainers serving by 60 military operators all around the world and by 15 demo teams. Today, hundreds of L-39 Albatros aircraft still fly in all climatic conditions and serve in a broad range of missions starting with all training stages from elementary to lead in fighter training, through air patrolling, close air support, surveillance, reconnaissance, test and ca-



libration flights, up to professional aerobatic formation flying.

Today, Aero provides support to many users of the legendary jet trainer L-39 and of its combat-proven light attack successor L-159. Aero is a long-term partner to many air forces and provides them with not only MRO services for their aircraft but also with upgrades and service-life extension, and

other. Last year it got a record order intake of 35 aircraft for several customers.

Aero is aiming also at the future of military aviation. With a brand new aircraft, the L-39NG, Aero is maintaining its positioning as a leader in the jet training market. The L-39NG aircraft is a modern and effective light jet capable to serve in a role of light attack and/or unified, comprehensive training system for modern air forces. It is based on the proven aerodynamic concept

of the L-39 with optimized features to reduce resistance and increase efficiency and utilizes the latest technologies and equipment. The L-39NG is equipped with five hard-points for weapons and prepared to train future pilots of 4th and 5th generation aircraft. Aero and its strategic partner Omnipol expect to present first customers for the L-39NG already this year.

## SOKOL™

The Parachute Simulator SOKOL™ is a high-performance e.sigma, s.r.o. product for the entire spectrum of parachute operations training, from beginners to advanced jumpers, and all-encompassing functionalities of a jump including HALO and HAHO jumps. All the functionalities were developed in cooperation with instructors and pro-

fessional jumpers with a specific focus on all needs of the advanced training requirements of Special Forces and other parachute jumpers. With an extensive range of training features, SOKOL™ combines theoretical learning with practical exercises, including a very realistic force feedback system. Thus SOKOL™ represents a cost-effective al-

ternative to traditional training methods such as pendulum rigs, suspension rigs, jump towers and wind tunnels. SOKOL™ helps to prevent injuries, save cost, reduce time and provides more rounded parachute training, thanks to its compact design and exercise creation tools.







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# Czech – Kazakhstan Business Relations



Dear readers,

It gives me a great pleasure to address you on the occasion of the Czech Republic's official participations in the KADEX 2020 International Exhibition of Arms and Technologies in Kazakhstan. You are arriving not only to visit the largest exhibition of its kind in Central Asia, but also in the country with the strongest economy in the region, and more importantly, to a place, which has strong and traditional economic ties with the Czech Republic. Kazakhstan is a country, in which people know us, as they know our products. The defense and security sector is no exception to this.

Kazakhstan has made impressive economic strides in the last decades since its independence in 1991. Last year alone, the GDP increased by 4,5 %. The backbone of Kazakhstan's economy is oil, gas and mining industries. The country has enormous reserves of raw materials, such as coal, uranium, iron and copper, to name a few. Financial resources of Kazakhstan are used for reindustrialization and further development of new, technology based industries, and also more advanced agriculture. Therefore, it is not surprising that Kazakhstan is considered by the Czech Republic to be a key economic partner in Central Asia, with the bilateral trade reaching USD 1 billion. The







importance of our economic relationship is manifested also by a high level of bilateral official contacts, which are very important for the defence sector, in particular.

As of today, the Kazakhstan economy has recovered from previous economic slowdown of mid 2010s, which was caused by external shocks, namely low prices of commodities in the world markets. It is also important that the exchange rate of the local currency of Tenge to USD remained stable in 2019, after the devaluation of 2015-2016. The state budget is in a slight deficit, this is however mainly thanks to transfers from the National Fund.

As mentioned before, the bilateral trade is solid with exports from the Czech Republic in the period of January - November 2019 increasing by 19,2 % and reaching USD 290 million. Imports from Kazakhstan, in its turn, decreased last year by 9,7 % and constituted 551 million USD. This means that we are looking at a more balanced bilateral trade. From the Czech Republic, exports include car parts with Škoda cars being assembled in Kazakhstan for the local market, telecommunication equi-

ipment, airplanes, computers, pharmaceuticals and livestock for breeding. The Czech Republic imports mainly oil and raw materials. As a matter of fact, Kazakhstan is the third largest supplier of crude oil to the Czech Republic, after Russia and Azerbaijan. Czech products have traditionally a very good reputation in Kazakhstan. There are approximately 30 active branches of Czech companies here. In this respect, it is important to note that the entry in the local market requires a reliable local partner, or a permanent representation.

The Czech Embassy in Nur-Sultan attaches an utmost importance to the development of economic relations. We organize, in cooperation with chambers of commerce and government agencies, a number of business events every year, covering sectors such as machinery equipment, mining technologies, health care devices, aviation industry, agriculture and food industry, chemical industry, all the way to the support of tourism and education. They include business missions, participation in exhibitions and fairs, conferences and forums, as well as support

to the specific joint projects. I make an effort to participate in them personally and to engage with the central government and also with local authorities in the regions of Kazakhstan in order to open doors for our business interests and to support specific deals of Czech companies. I find this to be a key purpose of my diplomatic mission in Kazakhstan and I consider it also to be a very meaningful one.

The importance of KADEX, which is held every 2 years, is not limited to Kazakhstan, but it is also significant for other Central Asian markets. KADEX 2018 was attended by 324 exhibitors from 30 countries and took place in 9 pavilions on 13,500 m<sup>2</sup>. This year, the exhibition, which is held on 28-31 May 2020 in the capital of Nur-Sultan, is expected to welcome 350 exhibitors and 48 official delegations, with an increase of the total exhibition area, as well. I am happy that the Czech Republic will participate in KADEX 2020 with the national stand. Its participation is organized as a project of economic diplomacy of the Ministry of Foreign Affairs of the Czech Republic, in cooperation with the Ministry of Defence and the Associati-

on of Defence and Security Industry of the Czech Republic.

Opportunities for collaboration with Kazakhstan in sectors of military equipment and air transportation, in particular, are sizeable. The Czech Republic supplied in the past to Kazakhstan L-39 trainers, L-410 aircraft, just to mention a few large deliveries. They continue to have implications for today's business. The opportunities thus include a modernization of old and purchases of

new aircrafts, supply of firearms such as pistols, rifles, etc., deliveries of information systems, protective equipment, optics, supply of means of transportation, etc. At the same time, it is important to mention that Kazakhstan defence market is a very competitive one, especially when taking into consideration it's traditional defence and security linkages with the largest partners in the region.

I would like to assure you that the Em-

bassy of the Czech Republic in Nur-Sultan, and myself personally, will render our full support to your ambitions in the country. I look forward to welcoming you at KADEX 2020, or meeting you during your business trips to Kazakhstan.

*Rudolf Hykl*

*Ambassador of the Czech Republic to Kazakhstan*







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# Mobile and protective and ballistic barrier

## Pavel Tesarek, Martin Lidmila, Jan Pohůnek



The construction company STRIX Chomutov a.s., which is part of the Integrated Rescue System (IRS) is primarily focused on special construction and geotechnical or mining remediation. As part of its activities, however, it has been active also in the field of research and development for many years.

Within the framework of these projects, together with the partners of the Faculty of Civil Engineering at Czech Technical University in Prague and the company PREFA Kompozity a.s., was developed the "Mobile Protection and Ballistic Barrier - BALBAR". The BALBAR is a mobile multi-stage protection system designed to enhance the safety

and protection of the intervening IRS units, people or property in various crisis and risk situations, namely:

### Explosive Defect Protection

- pressure and shock waves
- passage of any flames and heat waves
- impact of a flying pressure bottle in case of explosion
- fragmentation from exploding ammunition or improvised explosive device (IED)

### Against small arms fire

- stopping projectiles from short small arms using composite plates
- stopping projectiles from long small arms using a combination of composite plate and water bag

### Basic advantages:

- easy transport, easy handling, compact dimensions
- quick activation
- possibility of usage in enclosed spaces and higher floors of buildings

- possibility to connect barrier modules while preserving protection parameters
- compatibility with IRS - Integrated Rescue Service units (tanks, hoses, air bottles)
- remote installation option using ropes or pyrotechnic robot

### The basic modular solution of BALBAR consists of three multi-purpose elements:

- Composite GFRP (Glass Fiber Reinforced Polymer) plates with ballistic resistance
- Pneumatic supporting structure
- Water bag

The main advantage of the BALLBAR barrier over other systems is its high degree of mobility and wide range of applications. The ways of using the barrier were tested by members of the HZS Praha - Petřiny fire station. The barrier is fully prepared for practical deployment in real situations.

[www.strixchomutov.cz/vyzkum/mobilni-bariera](http://www.strixchomutov.cz/vyzkum/mobilni-bariera)

## esc Defence

ESC DEFENCE offers a product range of various On-Board Control Systems for vehicles and payloads, ranging from ionizing radiation hardened detectors to Data Relays and Sense & Avoid Systems. Commercial products include the 3rd generation of UAS/RPAS avionics with an Autopilot, Trajectory Management and Tracking functions; the 4th generation of GNC avionics developed for Launchers and Missiles, Micro-Satellite Instrumentation and Mini-Satellites. The 5th generation is a miniaturized and highly reliable system that enables UAS/RPAS to perform SWARM functions. ESC DEFENCE develops systems based on a revolutionary ASIC designed for a wide range of space and non-space radiation measurements payloads, which can be deployed as miniaturized radiation detectors with capability of identifying

radiation in early warning systems. ESC DEFENCE has recently presented its UAS/RPAS flight simulator. The AERO/SPACE FLIGHT SIMULATOR is targeted for expert users of UAS/RPAS and includes various aircraft and advanced options such as a full autopilot.

ESC DEFENCE is an expert in areas of Avi-



onics, Autonomous Software, Counter-Unmanned Aerial Systems (C-UAS) and Guidance, Navigation & Control (GNC) systems. ESC DEFENCE offers services as a leading SME in innovative R&D projects

with a focus on aerospace satellite payload chains modeling, as well as drone services to localize a radioactive waste (CBRN services).

ESC DEFENCE offers space qualified On-Board Control Systems, full design of space qualified payloads and a consultancy to satellite design, its implementation, testing and preparations for a rocket launch. ESC DEFENCE is using satellite Communication Ground Stations, to monitor own satellite payloads (radiation detector monitors based on the Spacepix sensors). ESC DEFENCE has prepared several Platform concepts of nano- and micro-satellites to be used

for EO monitoring and reconnaissance missions.

More information about ESC DEFENCE at [www.esc-aerospace.com](http://www.esc-aerospace.com)

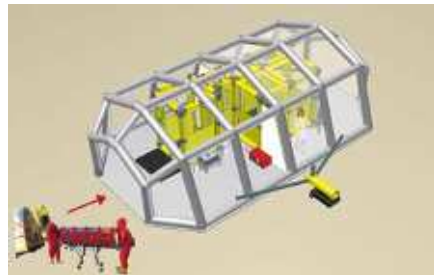


# THE WORLDWIDE SITUATION CONFIRMS THE NEED TO FOCUS ON THE PERFECT ISOLATION ISSUE OF HAZARDOUS INFECTIONS ANYWHERE AND ANYTIME

The current global situation in the field of highly virulent or dangerous infections is an increasingly discussed issue that should be addressed by each state under the national emergency plans. There is no need to go into far history, it can be mentioned the Ebola epidemic in West Africa in 2014/2015 with around 20,000 infected cases, where the mortality exceeded 9,000, or virulent infections such as SARS, MERS, avian flu, etc. And the situation will be undoubtedly more serious due to a mutation or an emergence of new infections such as the new coronavirus "2019 n-Cov", which in a very short time activated the national emergency epidemiological plans around the world and its consequences, can be immense.

For the reasons stated above and on the basis of the experience with the development and production of products which fall within the biological protection of the highest level, the Czech company EGO Zlin, Ltd. has decided to devote maximum

effort and capacity to the development of a mobile isolation station used to isolate the patient immediately in the field/outdoor areas. The development of this workplace will focus on meeting several very important criteria such as: providing protection at least at BSL-3 level, quick



putting into operation within minutes, minimizing direct contact of an intervening personnel with the infected person in order to provide a required medical care while all conditions are maintained, carrying out the necessary decontami-

nation of the intervening personnel and equipment i.e. entry/exit only through a hygienic filter, or providing a patient observation by a nursing staff. One of the other important aspects will be an easy transportability of the entire system, including related equipment, by all available means of international transport. As a result, mobile isolation workplaces find great use in NATO military missions, refugee camps, outbreaks or border outbreaks provided by medical units of humanitarian international organizations, etc. Thanks to a daily travel of the population in number of millions, every state should bear in mind that ensuring a maximum degree of protection in the event of the epidemic outbreak must be a priority criterion; otherwise a global disaster with enormous consequences may occur. Finally, it should be also noted that the WHO International Health Regulations oblige states to implement all available measures as well.



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# STV GROUP CELEBRATES 100 YEARS IN DEFENCE INDUSTRY

STV GROUP is one of the leading Czech private defence industry enterprises which proudly builds upon the tradition of the world-renowned Czechoslovak defence industry. This year the company celebrates the centennial anniversary in the manufacturing of large-caliber ammunition in its production plant in Polička established in 1920. Apart from its Polička facility, STV GROUP, headquartered in Prague, operates other facilities across the Czech Republic. The company has built its reputation as a long-term reliable partner and supplier of products and services not only to the Ministry of Defence of the Czech Republic but to NSPA and many other customers around the globe as well.

## Production of ammunition and demolition charges

In the present, STV GROUP is the only manufacturer of large-caliber ammunition on the Czech territory with extensive capabilities to produce not only large-caliber am-



munition such as 125 mm tank rounds but many other types too such as various types of rounds for RPG-7 or its highly precise 9 x 19 mm cartridges manufactured on new, state of the art production line. For engineering corps STV produces various types of shaped demolition charges.

## Overhauls and modernizations of military land vehicles, armored and artillery systems

For over 25 years STV GROUP has been a provider of overhauls and moderniza-

tions of military vehicles both tracked and wheeled. The company provides these services in its modern facilities with all the necessary equipment to conduct complex maintenances, overhauls, and modernizations on main battle tanks like T-55 or T-72, infantry fighting vehicles BMP-1, and BMP-2, and artillery systems. In the compound, there is also an extensive storage of readily available spare parts.

## Production of weapons

STV GROUP produces three main types of weapons:

- M-17, a 7,62x39 mm AK-type assault rifle available both with fixed and foldable stock
- LGL-7, a 40 mm RPG-7-type antitank grenade launcher
- HGL-9, a 73 mm SPG-9-type recoilless gun

More information about STV GROUP at [www.stvgroup.cz](http://www.stvgroup.cz)



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# Defense Cooperation between the Czech Republic and the Philippines: Shared History and Bright Future

In order to define the start of the Czech-Philippines defense relations, there is no better way than take the northbound highway from Manila and head towards the town of Tarlac, where the Capas National Shrine is located. This Second World War site dedicated to soldiers, who died as a result of the infamous Bataan Death March, hosts the engraved memorial of Czech and Slovaks who fought alongside their Filipino and US brothers in arms against Japanese occupation in the Philippines. To take such a trip from Manila one needs to pass the important artery of EDSA Avenue, where the modern logo of the renowned CZ (Česká zbrojovka a.s.) firearm manufacturer grabs the attention of gun enthusiasts and signifies that the defense platform continues to play an important part in the bilateral relations of the two nations.



Ambassador Jana Šedivá opens AURA workshop at the Department of National Defense premises

The above-described trip to the northern Filipino town of Tarlac as well as the Mount Samat National shrine became an annual tradition for Czech ambassadors serving in the Philippines as a way to commemorate the fourteen Czechoslovaks who decided to join the American-Filipino forces in 1942. Most of them were the employees of the world famous Tomas Bata Shoe factory that already had assets in the Philippines. Others came from the Czechoslovak consulate in that was operational in Manila since 1927.

They all voluntarily integrated into the defender force of the Philippines. As described by the current ambassador of the Czech Republic Jana Šedivá, "It is not a known history but this is something that we are proud of and we always look back, remembering the deep ties of the Philippines and the Czech Republic. The formidable valor shown by the Czechoslovak nationals who volunteered to fight with the Filipino and American forces is an emulation worthy of commemoration". Similar description of common

cause and sense of comradeship as described by Karel Aster, the last Czech defender of Bataan who passed in 2017, "Fighting for the Philippines at that time was like fighting for the liberty of Czechoslovakia, which became the German protectorate of Bohemia and Moravia during the war". In 2019 for the observation of the Araw ng Kagitingan (Bataan Day or Bataan and Corregidor Day, is a national observance in the Philippines which commemorates the fall of Bataan during the Second World War) Ambassador Šedivá joined the commemoration rites at Mt. Samat National Shrine on April 9 where she laid a wreath in remembrance of those who fought and died during the war including the Czechoslovak nationals. Similarly, Economic and Defense Counsellor, Mr. Benjamin Žiga, joined the tolling of the bells in Capas, Tarlac on April 10, and visited the memorial shrine of the seven Czechoslovak nationals who passed away in the war either during the Bataan Death March or at the Japanese prison camp.

There is no doubt that the shared military history and brotherhood trespasses time and exemplifies the various commonalities between the Czechs and Filipinos. It is important to highlight such historical milestones in order to integrate them with known linkages such as the devotion of the Filipino people to the Santo Niño de Praga (Infant Jesus of Prague) or the extraordinary friendship of Dr. Jose Rizal and Czech secondary



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school teacher Ferdinand Blumentritt. At the same time, the world of defense relations has its own linkages formed via strong legislative documents and agreements that signify the will to deepen the relationship.

### **What has been accomplished in this field in the recent years?**

Despite common history and prospect of cooperation, the Czech Republic and the Philippines are considered as non-traditional partners that have recently been boosting their cooperative measures in defense industry. The concrete starting point in the modern history would be May 2017, when two countries signed Defense Cooperation Agreement at the Czech Ministry of Defense in Prague. Signing on behalf of the Secretary of National Defense of the Philippines was Undersecretary for Defense Policy Ricardo A. David Jr., while Deputy Minister for Defense Policy and Strategy Division Jakub Landovský signed for the Czech Republic. The cooperation aims to develop Defense and Security Policy, Procurement Policy and Defense Industry, Defense Logistics, Peacekeeping and Humanitarian Operations, Compliance to Treaties on Defense, Security and Arms Control, Armed Forces Organization, Structure, Equipment and Personnel Management, Military Training and Education, and other activities as may be agreed upon. Department of National Defense of the Philippines outlined the meeting as "Convinced that bilateral cooperation shall help both countries in the understanding of their respective military issues and consolidate defense capabilities".

The defense realm received another major boost between May 6 to 9, 2019, when the inaugural Joint Defense Committee (JDC) took place in Prague. Defense Undersecretary Cordozo M. Luna, who also co-chaired, led the Philippine delegation along with Assistant Secretary for Logistics and Acquisitions Jesus Rey. R. Avilla and Assistant Secretary for Assessments and International Affairs Teodoro Cirilo T. Torralba III. The mechanism for JDC, clearly embedded in the 2017 Defense Cooperation Agreement provided concrete platform towards specific activities and establishment of sub-committees. Czech deputy Minister of Defense Jakub Landovský co-chaired the meeting with the respective delegation. The meeting provided first official forum to discuss the various aspects of collaboration, defense and security situation in Southeast Asia and Europe combined with common effort of military

development on the backdrop of bilateral defense cooperation. The steps forward where outlined mainly in establishing sub-committees on defense industrial cooperation. This provides clear road map towards the aspiration of joint defense projects materialized in equipment acquisition within the Horizon II of the Armed Forces of the Philippines modernization program.

Despite the main JDC bilateral platform, various meetings materialized in last 3 years that enabled concrete exchange of information and familiarization with Czech technologies and defense industry capability. In 2018, Undersecretary for Finance and Material Raymundo DV Elefante attended the recognized security and defense Future Forces Forum in Czech capital Prague. In 2019, delegation from the Department of National Defense attended the largest defense expo in eastern Czech city of Brno called International Defence and Security Technologies-IDET. There is a clear recognition on both sides that various visits and enhancement of common platform needs to continue. That is why, in 2018, Ministry of Defence of the Czech Republic officially participated on the Philippines' flagship defense & security event – Asian Defense and Security Exhibition ADAS 2018. Six leading companies of Czech defense industry became the center of attention for its high-quality military vehicles, weapon systems, and ammunition. The Czech booth was open by the former

Czech Ambassador Jaroslav Olša jr. with Undersecretary Cardozo M. Luna. Czech delegation was headed by Mr. Tomáš Kopečný, the former Director of Defence Industrial Cooperation Department at Ministry of Defence of the Czech Republic. The Czech defense industry was represented by five Czech companies from the defense sector - Česká zbrojovka a.s., Excalibur Army spol. s.r.o., Svos spol. s.r.o., Aura s.r.o. and STV Group a.s. Czech-Filipino defense cooperation also continues with incoming presentations and information sharing. On June 4, 2019, the Department of

National Defense of the Philippines hosted the presentation of the comprehensive military logistics system of the Czech company AURA, which has long been one of the world leaders in its field. The workshop took place in the officers' club and was organized in cooperation with the Czech Ministry of Defense and the Embassy in Manila.

The shared history and current progress on defense relations provides a good platform for deeper and more comprehensive cooperation as the modernization program of the Armed Forces of the Philippines continues. The Czech Republic is a stable and democratic nation with its security structure rooted in the North Atlantic Treaty Organization and open foreign policy towards nontraditional partners. Ongoing projects have full support of the Ministry of Defence of the Czech Republic with its openness towards encompassing G2G structure with the government of the Republic of the Philippines. The ongoing visits of Technical Working Groups and various platforms for bilateral visits continue to play vital role in the strive for continued defense cooperation framework. This can be clearly seen and openly discussed during ADAS 2020 at booth 1530, where the Czech Republic will officially participate.

*Benjamin ŽIGA  
Head of Economic and Trade Section  
Embassy of the Czech Republic to the Republic  
of the Philippines*

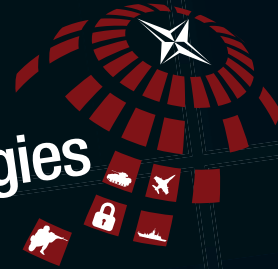


Ambassador Jana Šedivá and the Secretary of National Defense Delfin Lorenzana



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# Awards for the Best Products, Personalities and Companies of the Defence and Security Industry in 2019

On Tuesday, January 14, a representative editorial board of the Czech Defence Industry and Security Review and Review for Defence and Security Industry magazines of the MS Line Publishing House was held in the conference hall of the Army House Prague in Dejvice. Following the Board's meeting, traditional ceremony where personalities, companies and products of the Czech defence and security industry were awarded for the past year was held in the presence of prominent personalities and invited guests.



These awards have been given by MS Line Publishing House and CDIS Review and Review for the defence and security industry magazines already for 20 years. The awards were delivered by the Director of MS Line and Editor-in-chief of Review magazines, Šárka Cook and representatives of the Editorial Board:

- Lieutenant General Jaromír Zůna, First Deputy Chief of the General Staff of the Czech Armed Forces
- Major General Jan Kaše, Chief of the Military Office of the President of the Czech Republic
- Tomáš Kopečný, PhD., Deputy Minister



of the Industrial Cooperation Division of the Ministry of Defence of the Czech Republic

- Brigadier General Vladimír Vlček, Director of the Fire and Rescue Service of the Moravian-Silesian Region
- col. Petr Sehnoutka, Director of the Public Order Police Directorate
- col. Tomáš Hytych, Director of the Police Air Service of the Czech Republic
- Jiří Hynek, President and Executive Director of DSIA CR, Chairman of the Editorial Board of Review magazines

#### **MS Line Publishing house and editors of Review magazines granted:**

**Commemorative letter with thanks to Josef Orel**, long standing director and executive of ORITEST for supporting the media activities of MS Line and for personal activities as the founding member of the Editorial Board of the Review magazines.



Josef Orel, long standing executive and director of ORITEST and today one of the few founding members of the Review magazine's editorial board, has turned a small Prague company into a famous and world-renowned CBRN company. Due to his vision and thoughtful managerial and business skills, he has achieved unprecedented results in this area. It is gratifying that it is practically a family business, where the daughter and the son are taking care of this company future.

**Acknowledgements to Jiří Hynek**, the President and the Executive Director of DSIA CR, for personal activities and support of the Czech defence and security industry in the Czech Republic and abroad and for support of media activities of MS Line.

Jiří Hynek contributed to a significant increase of respect of the DSIA CR as such. The state authorities perceive the DSIA CR as the main partner representing the interests of the Czech defence and secu-



riety industry, and the DSIA CR is consulted on major issues. The membership is still expanding and currently counts more than 110 companies.

**THE AWARD EXHIBIT OF THE YEAR 2019 for AGADOS**, for the amphibious off-road trailer designed for wheeled and tracked vehicles in all types of terrain, which received the GOLDEN IDET award and Bronze IDET NEWS from the International Press Jury at IDET 2019.

AGADOS is the largest trailer manufacturer in the Czech Republic and one of the largest in Europe. It has special projects in its portfolio that are used by security and rescue services all over the world. Annual production is around 30,000 trailers. The amphibious all-terrain trailer designed for wheeled and tracked vehicles in all types of terrain attracted a lot of attention amongst visitors of IDET 2019.

This exhibit was the only one awarded by the official commission of the fair, but also by the international journalist jury.

**THE AWARD PRODUCT OF THE YEAR 2019 for RETIA** belonging to CSG holding, for the multi-purpose ReGUARD 3D radar for detection and tracking of ground and low-flying targets.

The product of the year is awarded to the RETIA from Pardubice for the ReGUARD radar. RETIA is one of the leading Czech manufacturers and suppliers of radar technology and special electronics. For more than 25 years of its existence, it has developed a number of unique and cutting-edge systems. The latest news from the development of this company from Pardubice is represented by the ReGUARD radar, which had its Czech premiere at IDET 2019. Besides its specifications, the ReGUARD radar is unique since it is the first 3D radar developed and produced in the Czech Republic. It belongs to the category of pulse-doppler 3D radars and is designed



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for detection and simultaneous tracking of ground targets and slow low-flying objects with a small reflective surface. The specific feature of this novelty from Pardubice is that it searches the area of interest by electronically deflected beams as well as rotating the radar head mechanically. ReGUARD is able to capture a wide range of objects, therefore it is suitable for border or important infrastructure protection, it may be used well in anti - drone systems, for example in airport security, but also in air defence systems. The versatility of the ReGUARD radar underscores the possibility of using it either as a stand-alone sensor or its integration into a higher level system as its integral part.

**THE AWARD PROJECT OF THE YEAR 2019 for TATRA DEFENCE VEHICLE** belonging to CSG holding, for commander and communication role versions of PANDUR II 8x8.

The project of the year is awarded to TATRA DEFENCE VEHICLE from Kopřivnice for the project of special command and communication PANDUR II CZ vehicles for the Czech Armed Forces. TATRA DEFENCE VEHICLE is the holder of the license for production and service for PANDUR II vehicles in selected markets and has the capability to develop new versions of these vehicles. Thanks to this and thanks to cooperation with the Ministry of Defence, CAF specialists and Czech research institutions and industrial companies such as VVÚ Brno and VTÚPV Vyškov, RETIA Pardubice, Ray Service from Staré Město by Uherské Hradiště, URC Sytems Prostějov, Interlink CS Praha, OPTOKON Jihlava and others, TATRA DEFENCE VEHICLE could supply the Czech army with modern vehicles equipped with the state-of-the-art technology precisely on schedule.

The new special Pandurs also underwent through the whole process of company, control and military tests without any major problems, which is another proof that today the Czech defence industry has the capability and capacity to develop and manufacture world-class items and supply it to the Czech army at high quality.

**THE AWARD JUMPER OF THE YEAR 2019 for EXCALIBUR ARMY** belonging to CSG holding, for

- outstanding results in the development of modern technologies for the Czech Army;
- the armored tactical vehicle PATRIOT II, the exhibit was awarded with Golden IDET 2019;
- and the special bridge vehicle AM-70EX.

The jumper of the year is awarded to EXCALIBUR ARMY from the Czechoslovak Group holding, the traditional manufacturer of ground military equipment and special systems. Last year, this company introduced several innovations, in particular the AM-70 EX bridge vehicle and the PATRIOT II 4x4 armored vehicle. Both vehicles had their premiere at the last year's IDET trade fair. Besides them, the EXCALIBUR ARMY also introduced the IRB pontoon bridge vehicle or the special recovery vehicle TREVA-15. The AM -70 EX bridge vehicle was built according to the requirements of the Czech Armed Forces for future bridge systems and its specifications meet NATO standards. In addition, the basis of this bridge vehicle is the proven TATRA FORCE chassis already in use in the Czech Armed Forces. The designers of EXCALIBUR ARMY used the TATRA chassis for the second generation of PATRIOT, now the most powerful and durable machine of this category developed in the Czech Republic. Its quality is also underlined by the Golden IDET award, which PATRIOT II won at the aforementioned IDET 2019. The LRPV Gepard light combat vehicle, developer by EXCALIBUR ARMY in association with other partners such as DAJBÝCH, TATRA DEFENCE VEHICLE and OPTOKON, won the same award.

**THE AWARD TRADER OF THE YEAR 2019 for Ray Service**, for outstanding results both in the business and management.

In 2019, Ray Service signed the agreement with BELL Flight and successfully completed a series of supplier audits. Europe's lea-



ding tracked armored vehicle manufacturers have chosen Ray Service to develop external lighting. The company also won contracts to supply components for the new Australian Army armored personnel carriers and modernization of the German Army vehicles, as confirmed by the latest contract with Rheinmetall Defence. It also signed the partnership agreement with Beth-EL, the Israeli company with expertise in CBRN.

**THE AWARD MANAGER OF THE YEAR 2019 for Lukáš Novotný**, marketing manager of CSG holding, for outstanding managerial performance in the defence and security industry.

Lukáš Novotný is the name closely associated with the origins of Excalibur and later also with the integration of CSG. He is a very hardworking man with his own vision, but also the real requirements on individual parts of CSG. We do not want to overestimate his merits, but he belongs to those who founded CSG, presents it in the most exclusive light, and takes care of the prospects of this holding.

**THE AWARD MANAGEMENT TEAM OF THE YEAR 2019 for DAJBÝCH**, for outstanding results in team management and for LRPV Gepard light combat vehicle, which won the Golden IDET 2019 award and was developed in cooperation with TATRA DEFENCE VEHICLE, EXCALIBUR ARMY, EVPÚ and OPTOKON.

The LRPV Gepard project is the result of close cooperation of Toyota Land Cruiser 70-series off-road platform supplier, DAJBÝCH company as a holder of the LRPV Gepard project, with domestic defence industrial companies. LRPV Gepard vehicle was developed by DAJBÝCH as a long-range reconnaissance vehicle intended for several days of independent deployment, with high mobility, high firepower, sufficient payload and, last but not least, ballistic protection. The LRPV Gepard light combat vehicle is one of the vehicles that could replace some of the aging off-road vehicles of the Czech Armed Forces. For its uniqueness and originality of technologies used, it received the Golden IDET Award. This IDET award-winning exhibit is the result of cooperation between the Pilsen based company DAJBÝCH, TATRA DEFENCE VEHICLE, EXCALIBUR ARMY, EVPÚ and OPTOKON.

Within a comprehensive solution, each cooperating company implants high-end technology items from their production portfolio.

DAJBÝCH expects not to use only this basic platform for other possible technical solutions, with the contribution of other cooperating defence industry companies in the Czech Republic in other areas of automotive technology, especially in the category of off-road passenger car, which has been the focus and specialization of DAJBÝCH for more than 25 years.

**THE AWARD PERSONALITY OF THE YEAR 2019 in defence and security industry for Jiří Podpěra**, the President of OMNIPOL, for outstanding results and personal activities in the aerospace, defence and security industries.

Jiří Podpěra was able to transform a purely trading company into a so-called integrator who, thanks to his influence and financial support of OMNIPOL, was able to lead exclusive products of ERA, AERO Vodochody or MESIT Holding to real business orders.

**THE AWARD PERSONALITY OF THE YEAR 2019 in the area of national defence and security for Tomáš Kopečný**, the Deputy Minister of Defence of the Czech Republic, for his personal activities in the area of cooperation between the Ministry of Defence and the defence and security industry and for supporting the media activities of MS Line Publishing House.

He is a person with a personal charisma, necessary knowledge and the ability to fight for the interests of the Czech defence and security industry. One of the few high-ranking civil servants prefers wide media coverage of the results of the Czech defence and security industry. He supports the distribution of Review magazines to desirable recipients from all over the world.

**THE AWARD COMPANY OF THE YEAR 2019 for TATRA TRUCKS**, for outstanding results in the area of development, production and technical equipment and material trade intended for defence and security of the Czech Republic and for unique cooperation with the Czech Armed Forces on the occasion of the 100th anniversary of TATRA.



## OPTOKON TACTICAL NETWORK

**OPTOKON NATO SUPPLIER CODE: 1583G**

### LMS-41H-2U Rugged Fanless Server



- Intel® Xeon® processor D-1541
- Up to 128 GB RAM ECC DDR4 2400 MHz
- SSD disc M.2 NVMe and 2x Dual removable SSD
- 2x 10/100/1000Base-T ports and
- 2x 1000Base-X FO uplinks

### LMCP-7HP-4GE Compact, ultra-durable server



- Intel "Skylake" 6<sup>th</sup> Gen Core i7-6600U 2.6 GHz
- 20 GB DDR4
- 4x 1 GbE

### LMCP-28H Light Mobile Computing Platform



Mobile server  
for audio, video  
and data signals

- 2x 100/1000Base-X HMA uplinks
- 8x 10/100/1000Base-T switched PoE LAN ports
- 3x or 5x 10/100/1000Base-T routed WAN ports
- ports 1x of them 10GbE-T

### LMCP-41H Light Mobile Computing Platform



- 8-Core CPU Intel Xeon, 128 GB RAM
- 5x 10/100/1000Base-T routed WAN ports
- 2x 100/1000Base-X + 8x 10/100/1000Base-T switched PoE LAN ports

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## OPTOKON TACTICAL NETWORK

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- Five programmable line keys
- Encrypted voice communications
- Widescreen VGA backlight color display

### LMIPT-21

## Rugged IP Phone



- Rugged IP Phone
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### LMAT-116

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- Designed for the harsh environment

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THE AWARD EXHIBIT OF THE YEAR  
2019 for AGADOS



THE AWARD PRODUCT OF THE YEAR  
2019 for RETIA



THE AWARD PROJECT OF THE YEAR  
2019 for TATRA DEFENCE VEHICLE



THE AWARD JUMPER OF THE YEAR  
2019 for EXCALIBUR ARMY



THE AWARD TRADER OF THE YEAR  
2019 for Ray Service



THE AWARD MANAGER OF THE YEAR  
2019 for Lukáš Novotný, marketing  
manager of CSG holding



THE AWARD MANAGEMENT TEAM OF  
THE YEAR 2019 for DĄBYCH



AWARD PERSONALITY OF THE YEAR 2019 in defence and security industry  
for Jiří Podpěra, the President of OMNIPOL, the award was taken by Marika  
Přinosilová



THE AWARD PERSONALITY OF THE  
YEAR 2019 in the area of national  
defence and security for Tomáš  
Kopečný, the Deputy Minister  
of Defence of the Czech Republic



THE AWARD COMPANY OF THE YEAR  
2019 for TATRA TRUCKS



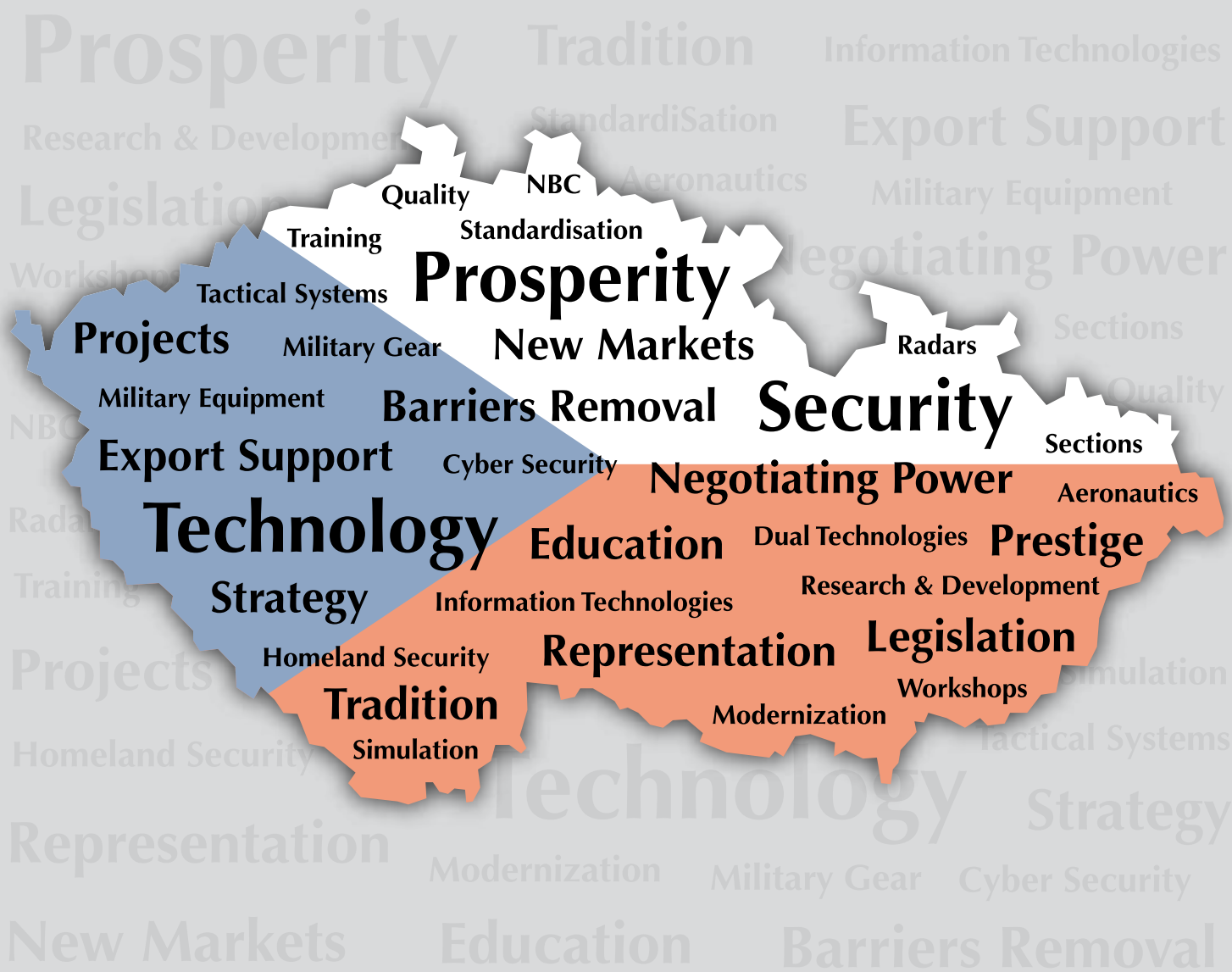
THE AWARD COMPANY OF DECADE  
FOR ERA, the member of OMNIPOL  
Group





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### The company of the year 2019

The TATRA brand is one of the symbols of the Czech engineering industry and also the brand perceived by the Czech public as the family silver. It is not in vain that this company ranks among the highest in various polls of companies and products. For example, at the end of the last year the company won the award the Brand, which the Czech people are the most proud of. However, for decades, TATRA has also been inextricably linked with the Czechoslovak and the Czech armed forces. Today, for example, thousands of TATRA vehicles form the backbone of the transport capacity of the Czech Armed Forces.

TATRA TRUCKS is one of the oldest car manufacturers in the world, with a long tradition, but the company does not live off only from it. Today it makes modern trucks that are used in various sectors of the civilian sector, but also in emergency services and in armies of many countries. The past decade has brought a number of significant changes for the company, for example, it has been returned to the hands of Czech owners, started to produce new model lines, and significantly modernized proven types of vehicles. The company also invested a lot in modernization of its production and customer service. Like many years before, TATRA TRUCKS has been an important partner of the Czech Armed Forces in the past decade and will continue to do

so, as evidenced by the last year's orders for TATRA vehicles. Based on this, in coming years TATRA TRUCKS will supply over 100 new vehicles to the Czech Armed Forces and will also participate in the production of TITUS armored vehicle, also ordered by the army. The largest markets, in addition to domestic one, were Slovakia as well as the Middle East, where Jordan clearly dominated. Also, Brazil was a pleasant surprise last year, where TATRA managed to double volumes compared to 2018. In general, 2019 was a very successful year for TATRA and the number of vehicles sold was close to 1300 units.

**THE AWARD COMPANY OF DECADE for ERA**, the member of OMNIPOL Group, for many years of outstanding achievements in development and production, in particular multilateral systems and technologies for tracking and recognizing targets and systems for air traffic safety, both in the civilian and military sectors.

ERA was established in 1994, and over a quarter of the century, the small business has become a world-renowned brand, with the biggest success in the last decade. The company has developed the last generation of original Czech technology - the passive tracking system VERA-NG. The system, used primarily for locating, tracking and identifying of air, sea and ground targets, is a unique device world-

wide that has no competition.

ERA has also promoted the passive radar technology as a full-fledged system in the civilian area, where it makes a significant contribution to air traffic safety. Its systems track the movement of airplanes from moving across the flight line through take-off, passing over the area, to landing and parking on a stand. ERA launched installations in the Czech Republic at airports in Prague and Ostrava and today over 130 systems are operated in 65 countries on five continents. ERA systems provide dispatchers with accurate location and path information for both aircraft and vehicles so they can safely control air traffic. ERA systems are being used by 15 out of the world's 50 busiest airports and many more.

Another important milestone of this company from Pardubice was opening of the new headquarters with research centre. It was set up in the industrial zone in Pardubice and now employs three hundred out of its 400 employees, half of them in research and development.

*Congratulations to all awarded!*

*Author: Vít Prácheňský*

*Photo: Antonín Svěrák*

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2020

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**Total attendance**

(exhibitors, visitors,  
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from 94 countries  
and 4 organisations  
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**696**

**journalists**

from 44 countries

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**2,102** Business meetings made



2018 key figures



# NATO CODIFICATION SYSTEM TRAINING 2020



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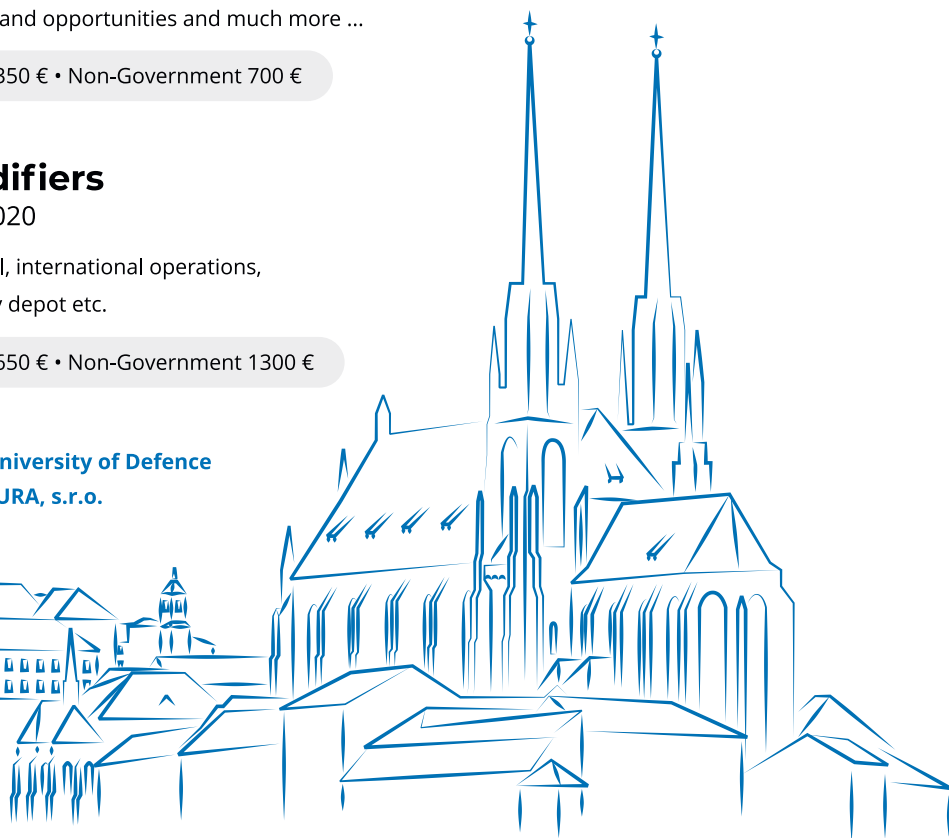
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University  
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#### Language

English

#### Contact information

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