Review for Defence and Security Industry®

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DSIA

Gripen – 15 years in service of the Czech Air Force

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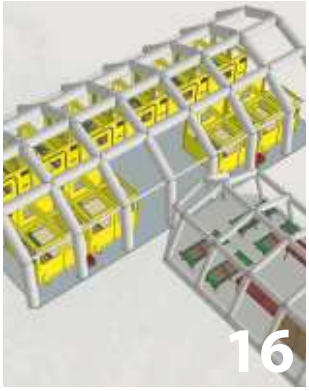
EDITORIAL

Dear readers,

The coronavirus pandemic has affected many lives around the world. It hit both our privacy as well as the business life. There are countless companies in the Czech Republic that are able to help with defensiveness of our country. However, in this respect there are still many obstacles. Unfortunately, this topic is being discussed on regular basis not only at the time of crisis.
I share the similar view with Mr. Jiří Hynek, the President of the Defence and Security Industry Association, the interview with whom you will find right at the beginning of this magazine: We should get better prepared for the future, especially by replenishing the stocks of the Administration of State Material Reserves. In this issue, we will introduce many defence and security companies that would help the country to overcome the crisis in a better way.
*In conclusion, I would like to offer you the opportunity to present your activities in the next, already twelfth edition of the bound book, **„Security and Defence Technologies Catalogue 2021-2022"**, which is, among other things, very positively perceived and used during delegation visits both in the Czech Republic and abroad by top representatives of MFA CR, MoD CR and MIT CR. You will find more details at www.msline.cz.*

Šárka Cook , Editor in Chief



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EDITORIAL BOARD OF CDIS REVIEW 2020

Interview with Dr. Jiří Hynek, the President of DSIA CR.

Dr. Jiří Hynek is a man who has always defended and supported the interests of the Czech defence and security industry with maximum efforts both in the Czech Republic and abroad. What impact does the coronavirus crisis have and may have on Czech companies in the future, and how should our state deal with this potential threat to Czech entrepreneurs? We asked the head of DSIA CR this question.

Year met year and again there is the general meeting of the Defence and Security Industry Association. How would you assess the past period?

I might say that the defence industry has prospered. Both at home and abroad. At home, the political establishment became more aware that domestic defence industry plays the key role in creating our own defensiveness. This is an important step towards greater involvement of domestic manufacturers in the armament programs of our own armed forces. A number of negotiations and presentations with government support took place abroad, and it seemed that after three years of a slight decline, the volume of exports would grow again. We were preparing other conferences, seminars and round tables, as well as participation in trade fairs and PROPEDs abroad. Unfortunately, the global pandemic of coronavirus COVID-19 has completely changed not only our plans. All in all, also this year's general meeting was held in a non-traditional way. Since there are more than 120 companies in the Association, we had to go for per rollam solution. However, I expect that the less formal part of the general meeting, which is the guest speeches and discussions, will take place in the autumn, at the earliest possible time.

So the coronavirus crisis has harmed the defence industry?

Yes. It also harmed the entire Czech industry and shook the economy of our country. But it is of no use to lament on what has already happened. Every crisis has two sides. One part of it affects us in some way, the other gives us the opportunity to learn from it. The worse side is not worth mentioning, media coverage was quite extensive for a long time. And I am afraid it will last even some more time. The better side of the crisis is the opportunity to learn for the next time. Other crises will come, and if we are not better prepared, the consequences may be catastrophic. The crisis has revealed to which extent the production of important products had moved out of Europe. And it also turned out that the only thing that can help the state in the crisis is the national industry. And the whole world's dependence on Chinese supplies has revealed as well. What was intuitively suspected was all of a sudden visible. In this crisis, the old saying proved to be true: „If you are looking for a helping hand, you will find it at the end of your own arm."

How should we prepare in a better way?

The government should buy strategic products in a different way than before. The long-term use of open tenders with a single price criterion has led to the advantage for Asian manufacturers and their European resellers. The price of labour in China is significantly lower than in our country. And it's not just about wages, but other wage-related levies. If you add to this the costs of complying with dozens of regulations in force within the European Union, then the Czech manufacturer has no chance to succeed. That is why a number of Czech manufacturers ceased production of some products or moved their production, or at least the production of some components to Asia, especially to China. Then, when the crisis occurs, as was the case with the coronavirus epidemic, this loss of national production capacity can be tragic for our country. It is sensitive in defence technology in particular. Let's admit that even there, thanks to the hitherto unfortunate policy of buying at the lowest possible price, we are in the grasp of foreign suppliers. I recently saw in the supermarket the set of four glass coasters made of wood, about ten centimetres in diameter. With the inscription Made in China and the name of the importer from Amsterdam. Given the current huge European overproduction of wood due to the bark beetle calamity and the fact that China is one of the largest importers of this wood, this is incomprehensible. Even more incomprehensible is the fact that the products coming from this combination - a Chinese manufacturer and a European reseller - appear in supplies to the state administration.

But when buying, the officials have to proceed in a diligent way, so they buy at the lowest possible price.

There is saying that no one is rich enough to buy cheap things. For military items, but not only for them, it is necessary to assess

the costs throughout the whole life cycle. A relatively cheap product can have damn expensive spare parts and service operations. This is usually the case with imported products. Thus, what currently seems to be cost-effective, might be a financial nightmare for the state budget in few years. In addition to this, officials and politicians are aimed only on the expenditure side of the budget. It is also necessary to assess the revenue side. If the government places the order with the domestic manufacturer, more than 40 % will be returned in taxes and levies in a very short time. And if the Czech companies have sufficient amount of work, then the government will get not only the higher income, but will save on social expenditures as well. And I am talking just about economic benefits. Security side is even more important. That means securing supplies in the days of crisis, threats to the state, and in the worst case, even in war.

Therefore, should be supplies of the Czech arms companies used as much as possible?

Of course, yes, and not just arms companies. But return to the standard situation is not that easy. Production capabilities and capacities cannot be ensured by any regulation or subsidy. Many Czech companies have resigned after many years of vain convincing politicians and officials that for security reasons it is important to buy mainly from the domestic manufacturers. The companies get either focused on foreign customers or switched to another production. In the worst case, they moved their production abroad. If the government requires help from the domestic industry in the days of crisis, it must maintain its production capacity even in good days. You can hardly double your production in one day or one week. The more complex the product, the longer it takes to increase production, because you need qualified and experienced staff. In addition to this, the government must have sufficient knowledge of capabilities of the Czech defence and security industry. This knowledge is important to make sure that activation of national production capabilities is included in contingency plans and procedures. We cannot rely on anything else, especially at the time of closed borders. The pandemic has confirmed that in the days of crisis, each state takes care of itself and no significant solidarity can be expected. I believe that one of the ways to prepare better for the future is to replenish the stocks of the Administration of State Material Reserves. It is not about increasing the amount of existing stocks, but about adding new products that may be useful for the next time. For a similar pandemic, supplies should be supplemented not only with items intended for members of the Integrated Rescue System, but various large-capacity disinfection devices, decontamination showers for emergency staff, mobile facilities for rescuers, etc. All these items are also suitable for potential chemical accidents. But the material reserves should also include supplies needed to ensure the necessary production in the event of a crisis such as an armed conflict. I am convinced that now it is the right time to discuss how to supplement the state material reserves. Moreover, by doing this, the government would provide work for Czech manufacturers. From the economic point of view, this is more advantageous than paying unemployment benefits or "kurzarbeit" (short-time work).

But if the government places the orders directly with domestic manufacturers, it might become dependent on their supplies.

Talking about dependence is a popular marketing ploy used by multinational companies, quite often in information technologies. When I mentioned the return of government expenditures in the form of rebates and taxes, this is probably concerning IT companies above all. If the state administration buys software from the Czech manufacturer, about 63 % is returned. In addition, if such a producer is able to sell its software abroad, almost one hundred percent is returned to the state. To put it simple, the state administration has free software for its own use. If the state administration buys the same software from a multinational company through its Czech representation, it hardly gets back 36 %. And moreover we can be glad if such foreign company employs Czechs at all.

You are talking about economic benefits, but what about the dependence?

In fact, we are always to certain extent in-

terdependent. And it is no doubt good if this interdependence remains within one country. Dependency on software supplies from one company is called Vendor lock. By switching to some universal software from a multinational company, it becomes dependent on a solution, a kind of „Solution lock". And if the customer tries to solve its independence with its own employees, it will not only be very expensive, but it will become dependent on them. There are well known cases when a group of key programmers in the state administration resigned and started their own business. In addition, military applications have one major specificity. They include very sensitive data. From a security point of view, the ideal supplier of such applications is a Czech IT company with appropriate security audit. Information on military personnel, the state of the military equipment, the amount of spare parts, ammunition and all logistics equipment must not be disclosed anywhere in the world. The same applies to information from command, staff and tactical systems. Wherever there is a software, there is a risk that there might be a back door in it, an element that will allow unauthorized persons to access the system from the outside. Security for IT orders must come first.

In your view, what is the key element hampering profound cooperation between defence industry and powerhouse ministries?

The major obstacles for armaments and purchases are excessive administration and vast complexity of the rules. It is not a problem to make a mistake, and once a mistake is made, it leads to further complication of the rules. Since 2007, the time for preparation of acquisitions has in some cases increased by an order of magnitude. What used to be prepared within two months, today might take more than a year. The only way forward is to use common sense and simplify the legislation. But I perceive the atmosphere in society as the biggest problem. Pathological suspicion and searching for corruption all around prevail. This is sometimes accompanied by a real corruption scandal, which confirms the general awareness that corruption needs to be sought even where it is not. All this leads to over-caution and buck-passing. Then we should not be surprised with public tenders with the price favouring resellers of cheap Chinese goods. In an atmosphere where the user, a member of the armed forces, is afraid to meet the designer from the arms factory, it is difficult for defence industry to develop. We must realize that the defence industry and the armed forces are in the swim. They cannot exist without each other, and only their mutual cooperation can guarantee security for the citizens. Transparent open negotiations and direct and long-term cooperation are the way forward. This cooperation should result in the identification of strategic suppliers with whom the framework contracts will be concluded for supplies both in times of peace and in the event of threat to the state and need for mobilization.

And how about export? Will there really be such a sharp decline instead of expected growth?

During the coronavirus crisis, there were no trade missions to the world. Now travelling is allowed, but air transportation is insufficient and it is still not possible to get to many parts of the world. Moreover, the countries to which our trade is oriented have their own coronavirus measures and they have no desire for trade negotiations. It can also be expected that the economies of the countries to which we have exported so far will suffer severely and there will be no money for further imports. From this point of view, it is necessary that the government will not impose any obstacles on fulfilling contracts that exporting companies have already concluded. If the economy is not restarted soon, it could also have an impact on the employment rate in the state administration. A more liberal approach to the export of military equipment and greater share of domestic producers in equipping our own armed forces are the ways to restart domestic economy, and this is in the interests of all citizens of our country.

Mr. President, thank you for the interview.
Šárka Cook

DSIA

We Work to Make the World a Safer Place

Since 1997
Defence and Security Industry Association of the Czech Republic has been a Significant National and International player.

www.dsia.cz

Fifteen Years on the Wings of Gripen

Fifteen years have elapsed since the first Gripen fighter of the Czech Air Force landed at the Čáslav Air Base. Since then the skies of the Czech Republic (and not only of the Czech Republic) have been protected by twelve single-seater JAS-39 Gripen C and a pair of two--seater JAS-39 Gripen D airplanes.

The conversion of the Czech Air Force into a modern, full-fledged member of the North Atlantic Alliance started on June 14, 2004, by the signature of a contract between the Czech Republic and the Kingdom of Sweden for the lease of 14 JAS-39 Gripen aircraft and related logistic support services for a period of ten years. Ten years later, an amendment extending the lease period until 2027 was signed, with an option allowing to extend the lease period by up to another two years.

A generation leap for the Czech Air Force

The new airplanes were gradually put into service so that they could replace obsolescent fighters of Soviet provenience in the Alliance's collective protection system now known as NATINAMDS (NATO Integrated Air and Missile Defence System) as of July 1, 2005. To meet the most stringent fielding deadlines, a training programme involving not only pilots, but also ground support personnel, had to be launched immediately. This was why first members of the Čáslav Air Base personnel travelled to Sweden to undergo training as early as in August 2004.

"At that time, it was not just the fielding of a new aircraft type. It was the implementation of a whole new system – new flying procedures, new weapon systems and tactics of their use, a brand new philosophy of the work of pilots and technical support personnel," is how Petr Mikulenka, now a Major General and National Military Representative of the Czech Republic at the Supreme Headquarters Allied Powers Europe in Mons, Belgium, comments on the transition to the new airplanes taking place at that time. He continues: "In less than a year since the signature of the contract, the Gripen fighters were in Čáslav. It was possible only because of the effort of all who participated in the project. It was done so fast because all of us felt a tremendous responsibility, from members of the project implementation team to the last member of ground support personnel. We could not afford or think of any option but success." And the integration of the new aircraft into the inventory of the Czech Air Force was indeed a success.

Gripen contribute to NATO's collective defence

"With our JAS-39 Gripen airplanes, we protect not only the airspace of the Czech Republic. We also fulfill our commitments to the North Atlantic Alliance. We have accomplished six missions abroad, protecting the airspace of NATO allies which do not have their own supersonic fleets," says Colonel Petr Tománek, Commanding Officer of the 21st Tactical Aviation Base in Čáslav. Czech Gripen fighters thus protected the airspace of Latvia, Lithuania and Estonia three times, in 2009, 2012 and 2019, operating from the air bases in Šiauliai in Lithuania and Ämari in Estonia. In 2014, 2015 and 2016, the Czech fighter pilots were guarding the airspace of Iceland. And they are preparing for future missions abroad.

Swedish approach to modernization

The approach to upgrades of airplanes manufactured by Saab in Linköping, Sweden, proved to be exceptional. While upgrades of other Western aircraft are more extensive and separated by relatively long periods of time, Saab upgrades its airplanes gradually and more or less continuously. During the fifteen years of operation, the Czech Gripen too have been significantly upgraded and acquired many new capabilities. "After more than eleven years of operation of the Gripen system, today's Czech Air Force now has aircraft that differ substantially from those we started flying with in 2005. Thanks to ongoing upgrades, which are included in the lease package of the Swedish government, the Gripen's capabilities are continuously improved," Colonel Jaroslav Tomaňa, Commanding Officer of the 21st Tactical Wing in Čáslav, confirmed in 2017.

Czech pilots have clocked more than 28,500 flight hours in Gripen since the airplanes were put into service of the Czech Air Force. They have successfully accomplished all missions of the protection of the Czech airspace and that of other allies, and they are prepared to continue to do so on the wings of their Gripen fighters.

Foto: Czech Air Force

Interview with Mr. Filip Engelsmann, Owner and General Director of AURA

"The current priorities of AURA are to strengthen the company brand and develop stable work teams", says the head of the largest Czech exporter of information systems in the field of military logistics.

Mr. general director, last year AURA celebrated 30 successful years of its existence. How did the festive year 2019 contribute to the development of your company?

Last year was really challenging for our company, but also interesting and varied. In addition to a high-quality fulfilling of foreign and domestic orders, we had a nice duty to celebrate with dignity and originality the important 30th anniversary of the foundation of AURA - from the original production cooperative established before the Velvet Revolution to FE Holding, which is based on AURA itself. At the conference held in the company headquarters in the centre of Brno, and then at the Brno Observatory and Planetarium, we welcomed representatives from 12 foreign partner organizations and dozens of domestic customers, including the leaders of our armed forces. Our employees enjoyed the anniversary especially at the two-day meeting in the beautiful historic town of Kroměříž. The joint team event, where we commemorated our main common successes, boosted our self-confidence, strengthened our sense of belonging to the company, and was a motivation and encouragement for all of us to continue working.

The developers of our MC CATALOGUE information system for codification according to the NATO standards have been preparing projects for other countries and constantly working to improve the system for its current and future users. MC CATALOGUE is currently used in twenty countries around the world. Another important project of the last year was the implementation of the Logistic Information System developed by AURA and used by the Czech Armed Forces for the Armed Forces of Ukraine. The project has been continuing according to the plan also this year. Our codification agency was declared the most demanded agency in Czechia for the year 2019. It processed almost 80% of all codification data of suppliers of Czech companies to the Ministry of Defence.

Last year was very varied for AURA, but not so exceptional as for work. What actually forms the basis of the company favourable development, what have you preferred in recent years?

This interview would probably not be enough to analyse all preconditions for the favourable development of AURA. Each time and each situation require different approaches, which we have been experiencing very clearly in the current coronavirus pandemic. The world of ICT is also very specific, with a huge added value of the resulting products and work performance. Clear and well-thought-out personnel policy is essential in this area, from selecting the right people to stabilizing, strengthening and training entire work teams. I have appreciated the ability of our teams to adapt to various difficult situations also now, at a time marked by many restrictions due to the COVID-19 pandemic. We have very quickly improved in a distance communication, which is useful for us, because working in international teams and remote collaboration in general is becoming more and more common.

AURA is significantly presenting itself in the sphere of advertising, PR and comprehensive company branding. What can you tell us about it?

AURA has developed into the largest Czech exporter of information systems in the field of military logistics. We regularly participate in international conferences, seminars, professional working groups or economic diplomacy events focused on defence and security that are organized mainly by the Industrial Cooperation Division of the Ministry of Defence. In addition to the company itself, we successfully represent also Czechia at these events. In the last years, we have been focusing on new and modern marketing, advertising and PR policy, which certainly contributed to the fact that AURA was declared the company of decade in Czechia last year. Our new branding is more visible also due to a massive campaign related to the celebrations of AURA 30th anniversary. I am glad that the more distinctive company face finds its response at home as well as abroad. We have also created a new website with emphasis on the practical side of presenting the company portfolio and comfortable environment for visitors. In general, we pay more and more attention to the complex concept of social networks. Through them we try to create a favourable image in a specific territory before the actual physical activity, but also to establish good business-partnership relationships. You can read about us in printed or electronic commercial and non-commercial periodi-

cals in Czech and foreign language versions, and in a number of catalogues focused primarily on the Czech defence industry.

The whole world, including our Czech society, has been significantly struck by the COVID-19 pandemic this year. How has this affected the life in AURA?

"No one should ever consider anything definitive because no one ever knows what can happen" are the lyrics from the Golem revue by Voskovec, Werich and Ježek. They remind me not only of the current pandemic situation but also, for example, of the fading global migration crisis, when no one even foresaw such catastrophes. Very extensively and analytically, with mathematical models predicted crises and threats do not take place, but there come completely new and unexpected ones. It is not possible to prepare for them, but it is possible to react to them. Then, it depends on the speed and erudition of stable and real work teams, how quickly the standard state returns. AURA is a medium-sized ICT company and our employees have often worked in the „Home Office", communicating on a regular basis through teleconferences, both among themselves and with their partners and customers from remote parts of the world. Currently, we are preparing the international codification courses NCS College 2020 in cooperation with the University of Defence in Brno and Czech National Codification Bureau, and we are evaluating whether we will make them on-site as usual or off-site without the need to travel for the students.
We soon adapted to the difficult situation at work. What I see as particularly important in relation to this pandemic is to maintain mental health and family integrity, and to find the optimal relationship between work and personal or family life. I would also like to emphasize the tolerance and search of informal and effective help not only for people in the company, but also outside its circle. In this sense, AURA in cooperation with Code Creator offered to use the Publi system – a multiplatform server-client software system for publishing and managing text and multimedia documents.

It is evident from history that AURA is not a company treading water. It is constantly trying to adapt to new requirements, developing new information systems at the national and international level. What new can we expect from your company in the coming years?

It is obvious that we will continue to be active in the specific field of information systems for military logistics. We will focus on the development of our successful MC CATALOGUE which is currently the world's most widespread software tool for materiel codification. In this area, we have been constantly extending the portfolio of services made to order for our customers which are primarily national codification bureaus and companies from the defence industry.
Speaking of codification, I would like to come back to the aforementioned Publi system. Technical documentation plays a major role in codification. And we have found an ideal and powerful tool in the mentioned platform, which can very effectively and at the same time safely manage the distribution of multimedia electronic documents. I would be happy if everyone, who needs to share documents with their customers, partners or institutions, has the opportunity to get to know Publi and discover its unexpected advantages. In AURA, we believe that there is a future in such tools.

Last year, we started working on a new generation of Logistic Information System – LIS which is designed for foreign markets. The development is based on our experience gained from the long-term cooperation with the Czech Armed Forces. The goal is to create a modular solution that can flexibly respond to the requirements of future customers, and thus maximize the capabilities of their armed forces. The key to achieving this goal is in particular the capability to cooperate with foreign armed forces, comprehensive overview of assets and their movements, well-trained units, operational equipment, ability to flexibly change plans according to the current situation and long-term sustainability of the entire supply chain. The basis of the system are modules for managing property, personnel and services together with operation and maintenance of equipment. They provide answers to the basic logistic questions – who, what, where and how much. In addition to the quality and timeliness of data, we also pay attention to their security. We are aware of the fact that nowadays the conflicts are moving into cyberspace. Therefore, in the development of logistics, we use modern robust technologies and adhere to international standards. The current pandemic has highlighted the key role of efficient logistics and well-functioning distribution chains.
I believe that AURA, which is primarily engaged in the development and implementation of logistic information systems, will significantly contribute to overcoming the pandemic consequences and will have plenty of opportunities to succeed in the field of military logistics in the future.

Antonín Svěrák thanked for the interview
Photo: AURA archive

ERIS by ERA - the Alternative System for Medium-sized Airports

The ERIS system for ground surveillance and control can be tailored for integration into many different ATC environments. Czech-based company ERA launched ERIS, the ATM and ATC system for medium-sized and regional airports, at the World ATM Congress 2019 in Madrid and presented it to Czech public within the NATO Days in September the same year.

ERIS is a product family of ATM systems designed for air traffic control and flight planning of civil and military operations. When used in conjunction with ERA´s Neo multi-sensor surveillance system, it represents a complete solution for ATC controllers.

ERIS's modular architecture and scalability enables individual and optimal site-specific tailoring and easy integration into various ATC environments. The use cases for ERIS ranges from a solution on ACC or APP level to a Common Ground Surveillance System (CGSS) suitable for both medium-sized and regional airports.

ERIS has been developed to comply with ICAO and Eurocontrol standards. The system is designed for 24/7 continuous operation with its configuration depending on the given use case. It features include multi-sensor data fusion, flight data processing, safety nets, integrated situational data presentation, complex supervision and monitoring functionality, and recording and analysis tools.

Product portfolio

The recently introduced ERIS system, can provide different functions depending on the type of ATC operations it is intended for

ERIS C2

ERIS Command and Control is an information system designed to support command and control of air forces at operational and tactical levels, enabling planning and implementation of air and GBAD operations.

ERIS ATM
ERIS Air Traffic Management is an information system designed for radar and procedural air traffic control at all types of ATC centres. It allows for tracking and evaluation of the movement of air objects and fulfilling special functions depending on the location and the way of its particular implementation.

ERIS A
ERIS Alternative Common Ground Surveillance is an information system designed to detect objects (airplanes, vehicles, or persons) moving in defined areas of an airport.

ERIS DSD
ERIS Distributed Surveillance Data is an information system designated for receiving, filtering, processing, fusion and control of ASTERIX like data flow on a scale of a country where the system is implemented to the single communicated nodes.

ERIS ART
ERIS Analysis and Replay Tool is a solution for advanced analyses of the surveillance data providing information on performance, integrity and other characteristics of the surveillance sensors.

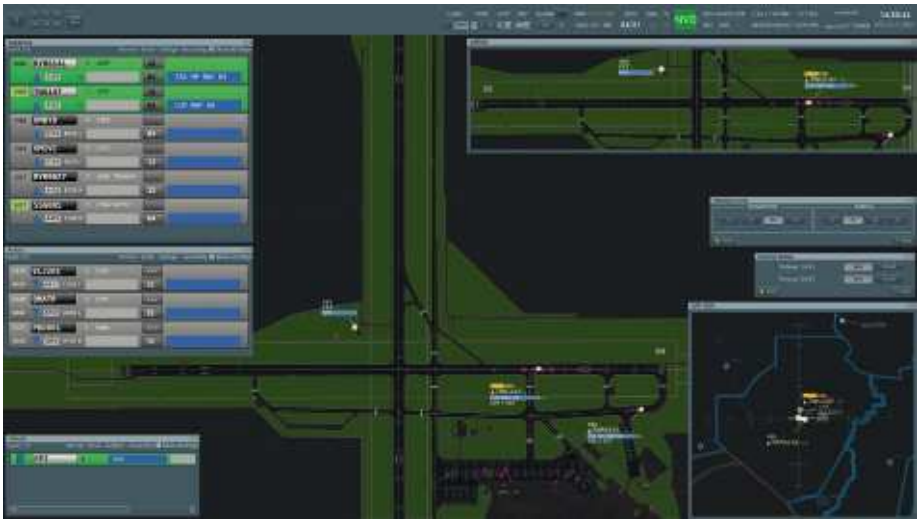
ERIS international references:

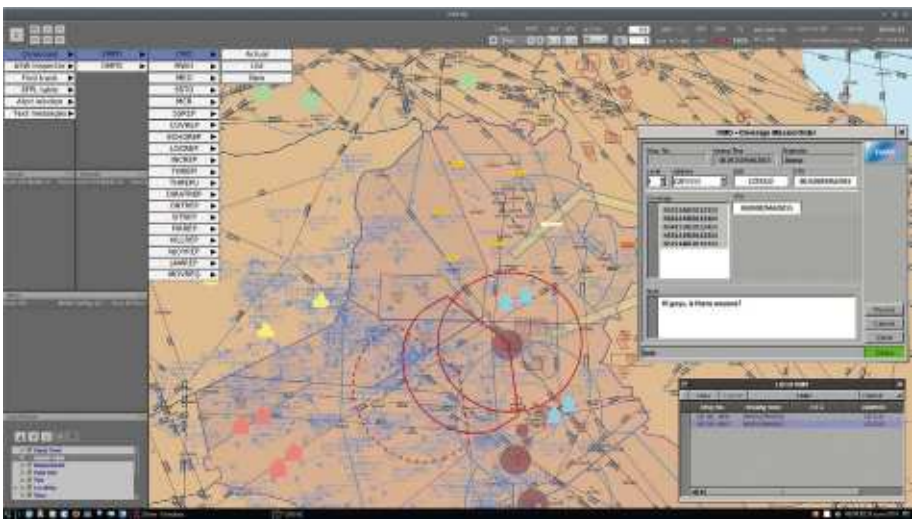
ERIS for AASL (Airport & Aviation Services Limited), Sri Lanka
• A data fusion and surveillance data display delivery including a subsystem of ART (Analysis and Replay Tool) that enables advanced analyses of the surveillance data, as a part of the ADS-B surveillance system in Sri Lanka.

ERIS for Sulaymaniyah Airport
• A delivery of the ERIS Air Traffic Control System for Sulaymaniyah Airport in Iraq as a complement of the WAM system to cover its approach area.


ERIS A: Runway Incursion Alert (Runway Monitoring and Conflict Alerting function)


Sri Lanka


ERIS A: Surveillance display for Airport Control Service with integrated electronic strips

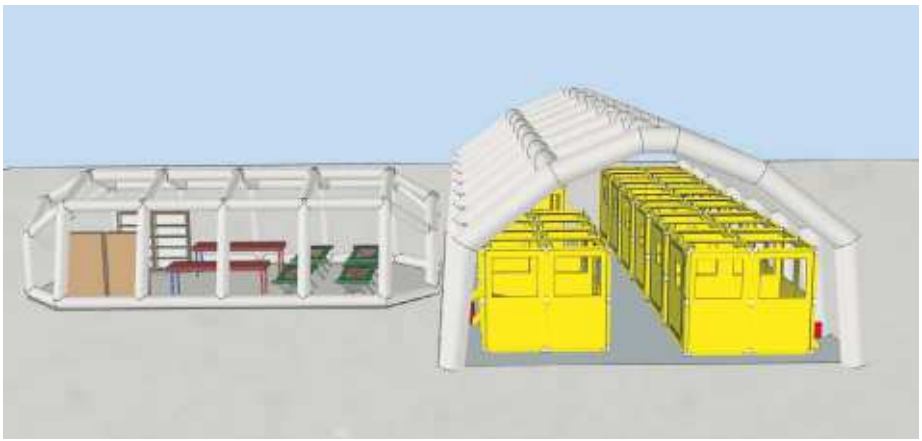

ERIS C2: Command and Control Integrated Display

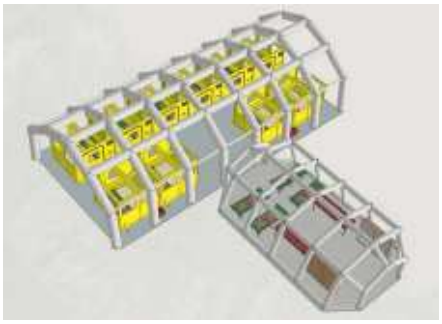
ERIS for UkSATSE (Ukrainian State Air Traffic Services Enterprise), Ukraine
• A complete radar network delivery utilizing the DSD component (Distributed Surveillance Data) providing a validation and a distribution of the surveillance data within all FIRs (Flight Information Region).

Description (main pic):

The ERIS System's modular architecture means it can be tailored to different regional and medium-sized airports wihle remaining cost effective

The COVID-19 pandemic defines the current direction in the area of research and development. EGO Zlín reacts and proposes a new specialized solution in the fight against the disease.





The current crisis made by the new type of coronavirus, which causes the COVID-19 disease, has confirmed that a fast response is a key and the most effective way to minimize the spread of the disease and provide adequate health care to those who are infected. Due to the immense migration of people, outbreaks of infections spread very quickly all over the world, and unfortunately, it became fatal for thousands of people. For this reason, this still relatively unexplored disease, without some effective treatment, requires cooperation at all levels, while all parts of the state play an essential role not only in the preparedness of their own units and people, but also of the equipment, in order to eliminate the further spread of the virus to a healthy population. The most important step in preventing the spread of the disease is to create sufficient space for the isolation of infected people in the disease occurrence, in the shortest possible time with minimal requirements for the construction or reconstruction of medical facilities intended for this care.

For the reasons stated above, the Czech company EGO Zlín has set the goal of designing, developing and optimizing a specialized field infectious workplace for mass isolation of people, which could be developed in a short time and without high demands on putting it into operation, because this workplace can be built directly in the outbreak of the infection.

The purpose of the development of this mobile infectious workplace is the ability of hospitalization of up to 20 patients with a mild course of the disease or 10 patients with a severe course of the disease, including the necessary support of breathing. The concept is based on new trends and approaches, when it is necessary to isolate the patient within the basic requirements of the BSL-4 biosafety level, but it is not necessary to implement all aspects of the complete workplace, such as hospitalization for infectious patients in hospitals, and also it is necessary to isolate patients among themselves regarding the course of treatment they will go through.

As a part of the development, the basic requirements for such a workplace were set, such as the possibility of activation a separate workplace from any other activities; putting the workplace into operation and working in the negative pressure mode towards surroundings; outlet of contaminated air through high-quality HEPA filters while using also UV radiation; the possibility of visual contact with a person placed in an isolated environment; used surfaces are impermeable to water and resistant to disinfectants, including easy disinfection and washability; the ability to distribute the supply air evenly to prevent the formation of „dead spots"; the possibility of serving fluids or medication without direct contact with the patient, and many others.

This area of development is a priority task for the company not only due to a possible risk of the second wave of the COVID-19 pandemic, but also due to the high probability of new and possibly more aggressive types of diseases anywhere in the world with far-reaching consequences, worsening of the individual countries functioning or international communities, including economic impacts of around trillions of euros. The intention of the new development task is also to cooperate with other top Czech manufacturers, so the concept is maintained with high added value of the system and at a reasonable cost.

The development of this workplace represents a great challenge for EGO Zlín, as not only many years of experience in the field of protection against highly dangerous diseases will be implemented and taken into account, but also current crisis procedures and measures implemented within the COVID-19 pandemic, for which, unfortunately, no one was completely and maximally prepared.

The spread of the disease across all continents with more than 4 million of infected people should be a sufficiently large warning to any country, and the protection of public health must be a clear priority. The proposed workplace will therefore be adapted not only to the current urgent conditions, but also to possible future requirements within the fastest possible preparedness and reaction in such a difficult situation.

CURRENT NEEDS CALL FOR SPECIAL ISOLATION EQUIPMENT

EGO
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The Centennial of the Polička Production Plant

Exactly 100 years ago, on April 28, 1920, the **"First Military Ammunition Factory"** in Polička was founded. The centennial of Polička plant commemorates not only history of the company itself, but also the legacy of the Czechoslovak defense industry.

In 1920 the Czechoslovak Republic was very well aware that its existence is not self-evident and the preservation of democracy in a small state in the Central Europe will be possible only with a well-armed army. That is why an ammunition plant was built in the safe zone away from the state borders in Polička. The task of the factory was to ensure a sufficient supply of military materiel to the Czechoslovak army and to demilitarize large amounts of unused ammunition form the World War I.

The very first product in the First Military Ammunition Factory in Polička was a hand grenade which was produced in 1921. In the interwar period, the factory did not focus only on hand grenades, but its main manufacturing program was large-caliber artillery ammunition and the demilitarization of old ammunition stockpiles. Even now, after decades, the factory still produces large-caliber ammunition and explosives.

After the World War II, the Polička plant was restored as the "Military Factory 1" which was later moved under "Adamovské strojírny". The military program was broadened by the production of engineering equipment and machinery for the civilian market. At that time, the breakthrough products for civilian use were measurement and pumping equipment for filling stations which were massively exported.

After the fall of the Iron Courtain in 1989, Polička factory became a private company again as "Poličské strojírny". Along with the opening of the market to the western competition, the licensed production of pneumatic elements began, which became an economic and technological driver of the company with its own development capacities.

Nowadays Poličské strojírny is a company with an international reach. You can meet its pneumatic products practically almost every day. All you have to do is take a bus in almost any European country and most likely the door pneumatic system will be made in Polička. Pneumatic elements production covers pneumatic cylinders, drives, heavy-duty elements or control valves, which are used worldwide in many industrial applications in the field of automation and robotization of production. An essential part of the production program is also custom engineering production and measuring and pumping technology.

After 2015, the extensive premises of the factory became the base for the STV INVEST owned group of companies, which focuses mainly on providing repairs and supplies of ammunition and other equipment for the armed and security forces. Poličské strojírny belongs to the portfolio of this industrial group. Under the leadership of the STV INVEST the whole area has come to life and now is overflowing with activity. In the halls we can meet heavy military vehicles, which are undergoing modernizations and overhauls. On the production lines is made not only tank and artillery large-caliber ammunition, but also award-winning small-caliber ammunition for sports shooters and self-defense. A chapter in itself is the production of TNT boosters and plastic explosives, which are used for special blasting work, especially in the armed forces. The origin of the factory is mirrored in the process of ecological disposal of obsolete or surplus ammunition.

From what was established as an ammunition factory, it is now a flourishing technology center where high-end products are made for both the civilian and defense sectors and Poličské strojírny, STV GROUP and other companies of the STV INVEST group are one of the main employers in the region with more than 500 employees. We have something to build on, we are proud of our history and we look to the future with optimism as did the founders of the Czechoslovak Republic and the factory in Polička.

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AGADOS' Special Projects Can Help in Water Crisis

The drought that has plagued all of Central Europe has been a major issue in recent years. According to some sources, this is the worst drought in 500 years that may be caused by climate changes. Agados also offers assistance in times of drought through its special projects - drinking water tankers and water treatment plants. Water is lacking everywhere, which affects everyday life. People dependent on wells and living not only in drier areas might once again experience days when they will have to rely on drinking water tankers, because the wells in the gardens will be empty.

In recent years, special projects of Agados, the largest trailer manufacturer in the Czech Republic, have included products that can be helpful in resolving the drought crisis. It is a mobile tanker to transport drinking water and a mobile contaminated water treatment plant. Both devices are equipped with a single-axle suspension heavy-duty chassis, which makes it possible to move easily even in rough terrain. The trailers are equipped with a height-adjustable drawbar that enables towing by vehicles of different types. The mobile tanker volume is up to 2,500 litres. A special water treatment plant, which combines various physical and chemical processes and guarantees efficient water treatment in a wide range of pollutants, can, in turn, purify biologically, chemically, radioactively or otherwise polluted water. „Agados focuses on special projects that respond to current needs, so it is possible to use both of our „water" devices not only in field conditions, but also in everyday life," says Petr Ostrý, CEO of Agados.

Water trailer

UVA 500

Mobile water treatment plants:

Advantages
- 2 types - (Water trailer, UVA 500)

Water trailer type:
- highly efficient water treatment using clarifiers and other filtration systems
- produces tasty water without chemical impurities

UVA 500 type:
- sophisticated technology using reverse osmosis and micro--filter assemblies
- chlorine producer from edible salt for disinfection purposes can be built into the assembly of this treatment plant
- the treatment plant works with various types of pollution (mechanical particles, chemical pollution, biological, industrial, radioactive, petroleum waste)

Technical data
- Dimensions (l×w×h): 4,100 × 2,250 × 2,850 mm
- Total weight: 2,000 kg
- Unit capacity: up to 1,500 ℓ an hour or up to 36,000 l a day

Mobile NAVA 2000 tanker:

Advantages
- transport of up to 2,500 l of drinking water
- heavy-duty chassis makes it possible to move the tanker in rough terrain
- quick commissioning, easy to handle
- variability of connecting equipment, height-adjustable drawbar

Technical data
- Dimensions (l×w×h): 4,100 × 2,250 × 1,400 mm
- Total weight: 1,020 kg (empty tanker), 3,020 kg (full tanker)
- Tanker volume: up to 2500 ℓ

Oritest Group

Oritest Group designes CBRN Solutions and makes R&D in new chemical detectors mainly with IMS Technology. Together with Oritest they form a strong team which offer complete CBRN Solutions „Everything from simple CWA Detection Paper to Reconnaissance Vehicles". Due to the expanding activities in the Federal Republic of Germany, the subsidiary Oritest-Saxonia GmbH was established in Markkleeberg, Saxony.

Our production is primarily based on our own know-how, the creator of which is a team of research and development staff.

The research team of the company is the founder of more than 80 patents (mostly used in production) and more than 150 scientific publications. Our transformation of know-how originally focused on the military sector and now we have included the civil sector and protection of the environment. A novelty in our program is the organization of CBRN training which can be tailored to customer requests.

Oritest Group has an unambiguous character of small and medium-sized enterprise with the basic principle of maintaining the maximum technological level in their field with a permanent focus on innovations that help not only to maintain but also strengthen the position on the world market, which is essential for the efficiency of the activity. In addition, it has built and maintains and strengthens a structure that provides maximum flexibility and performance over the long term.

Two spheres of development, production and organizational relations are established, maintained and strengthened, which define and fulfill the internal and external context. The character of SMEs is significantly determined by the applied and applicable organizational and relationship forms.

The subject of activity is research, development, production and sale of means for protection against toxic chemical substances (including chemical warfare agents), especially in the area of their detection and decontamination.

Application Equipment for Surface Decontamination

Decontamination of surfaces minimizes the risk of contamination or transport of contamination to other areas and thus reduces the further spread of contaminants. The individually developed components of Kärcher Futuretech are used to perform various decontamination processes and are mutually coordinated parts of complete decontamination systems.

DS 5 and DS 10 pressure spray device

These devices are used for spraying decontamination and cleaning agents as a part of a thorough pre-decontamination. Thanks to their high mobility and easy handling, the devices can be used quickly if needed. The DS 10 can also be optionally fitted with a compressed air connection.

Electric pressure washer HD 5/11 Cage DJ

The mobile HD 5/11 Cage Classic DJ is a compact pressure washer that cleans surfaces with cold water and can also discharge single or two-component aqueous disinfectants or cleaning agents.

MPDS diesel-driven multi-purpose unit

The MPDS is a multi-purpose unit for decontamination and cleaning using cold or hot water, and dry or hot steam. It is a flexible system that can be used for various decontamination procedures.

Decontamination using aerosols

Aerosol modules are used for precise decontamination, disinsection and disinfection of interiors and surfaces, which can reach even hard-to-reach places in rooms. The suitable agent turns into fine aerosol droplets and forms a mist that floats in the air. Thanks to this mist, it is possible to decontaminate even the tiniest holes and corners of interiors.

Aerosol generator allows the use of various aqueous solutions and can be used for decontamination, disinsection and disinfection of interiors and surfaces, for example after contamination with biologically or chemically hazardous substances. Thanks to its low weight and simple operation, the unit can be deployed by a single person. In the Czech Republic, this device has been used, for example, in connection with the necessary disinfection of premises during the coronavirus (COVID 19) epidemic.

Quittner & Schimek Supports Rheinmetall Defence on LAND 400 Program

Quittner & Schimek became established supplier and experienced producer of cable harnesses, electromechanical assemblies, connectors and distributor of interconnections components for installations in defense and aerospace programs. Fiber optic sand hybrid assemblies are part of deliveries as well. From international customers there we can mention well know names like Rheinmetall Defence, Krauss-Maffei Wegmann, Thales, DND, Honeywell or Safran and our local customers are first of all Aero Vodochody, MESIT, ERA, RETIA, PBS Velká Bíteš, but also many other projects and customers from Czech defence and Aerospace industry.

As a longstanding partner of Rheinmetall Defence, Quittner & Schimek – has been involved from the very birth of the LYNX KF41, developing the cables for the first prototypes. This has produced the first export-related revenues worth millions of Czech crowns through Rheinmetall's participation in the Risk Mitigation Activity (RMA) phase of Australia's LAND 400 Phase 3 program with the LYNX KF41, which is equipped with the cables designed and manufactured by Quittner & Schimek.

Simultaneously with that program, Rheinmetall has put forward the Lynx KF41 – among the world's most advanced modular medium-weight armored fighting vehicles – in the tender to supply the Czech Army with 210 IFVs by 2020.

LOM PRAHA Celebrates its 105th Anniversary

The LOM PRAHA state enterprise founded in 1915 is looking back this year on its successful history dating back more than a century. As a specialist in the field of aircraft repair, development, research and modernisation, the company is deeply etched in the awareness of aviation industry professionals at home and abroad. More than ever, the anniversary year of 2020 belongs primarily to the future. In the context of the purchase of American Viper and Venom helicopters for the Czech Army, one of the company's key customers, the state enterprise in many respects is preparing for the transition to Western technology.

The company's most successful activities:

- Maintenance, repair and modernisation of Mi-8/17/171/24/35 helicopters and L-39 aircraft
- Maintenance and repair of TV3-117, Ai-25TL, M701 and Ai-9V engines and VR-14/24 gearboxes
- Pilot and ground staff training
- Production and maintenance of unique M132, M332, M137 and M337 piston engines

LOM PRAHA milestones

1915 The Breitfield-Daněk company in Karlín begins production of HIERO engines.

1942 At the initiative of German command in Prague, the new construction of military aircraft repair operations is launched in the village of Malešice as a branch factory of ČKD Praga. Engine repairs are commenced in the same year.

1989 The LOM PRAHA state enterprise is founded by the Czech Ministry of Defence.

2003 Letecké opravny Malešice s. p. and Letecké opravny Kbely s. p., which had repaired MiG, Suchoj and Mi helicopter bodies, merge.

2004 The Aviation Training Centre (CLV) is established in Pardubice and VR Group a.s. is incorporated into the state enterprise as a 100% owned subsidiary.

2011 The Tactical Simulation Centre (TSC) is built at the CLV.

2013 LOM Praha s. p. takes over the northern part of the area of the 23rd Helicopter Air Force, including Přerov Airport. The company receives permission from the Civil Aviation Authority to operate a civil international non-public and domestic public airport.

2014 The 100% owner subsidiary LOM PRAHA TRADE a.s. focused on foreign trade is established.

2018 Mi-2 helicopters are replaced by new Enstrom 480G-B helicopters.

Company JISR Institute

Founded in August 2016, with deep roots in history of EW and ISR, which is based on the development, production and integration of high-quality passive sensors. It was created as a project of cooperation of experts in individual fields of EW and ISR that are directly employed or involved from partner companies.

In many cases, experts from JISR Institute used to work for the Czech Armed Forces, where they used the predecessors of current modern systems in a real deployment or participated in the development of these systems in partner companies. At present, they use their knowledge and experience in JISR to create an overall concept of EW and ISR for the Czech Armed Forces through which it contributes to NATO structures.

In this way, JISR participated in development and supply projects for the Czech Armed Forces with partner companies, such as VVU (Military Research Institute, state enterprise) and URC Systems; with them JISR supplies and cooperates in the development of passive surveillance systems for ESM and tactical use in COMINT as well as ELINT.

JISR also cooperates with other major companies contributing to the EW and ISR concept of the Czech Armed Forces and is a leading force in the PESCO program (European Joint Forces Project), more precisely the project of passive systems and their integration into the CESMO infrastructure. At CESMO, JISR is a leader in developing its own standard for the whole NATO structures. It should be also mentioned that JISR in cooperation with company ERA a.s. prepared and conducted a NATO workshop in Brussels 2017 on the integration of passive systems through the standardized CESMO infrastructure; this was designed especially for NATO countries acquiring, planning and building EW and ISR infrastructure compatible with NATO structures.

JISR offers comprehensive ISR solutions, from research, construction, architecture and scenario based on professional analysis of end-user requirements, through the creation of doctrines and education, to the provision of JISR Institute operators for missions and projects. All solutions are based on modern and, if possible Czech technological systems using local human and technological resources. The basis of the company are made by top experts in the field of design of architectures Command, Control, Communication, Computers and ISR Systems, EW, from military practice and scientific community. JISR covers the design, development and production of ISR systems for worldwide customers.

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