

# CRO MAIL

CROATIAN MILITARY MAGAZINE

№ 21

YEAR 11

MAY 2019

ANNIVERSARY

## CROATIA

RELIABLE ALLY AND VALUED  
ADDITION TO NATO

AIR SURVEILLANCE  
AND NAVIGATION  
BATTALION -

GUARDIANS  
OF CROATIAN  
SKIES

ASDA GOES ON

UNIFIL

# VISIT TO CROATIAN SOLDIERS IN LEBANON

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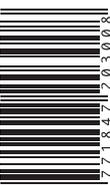
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PATROL VESSEL

PRINTED IN CROATIA

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ISSN 1847 - 2036



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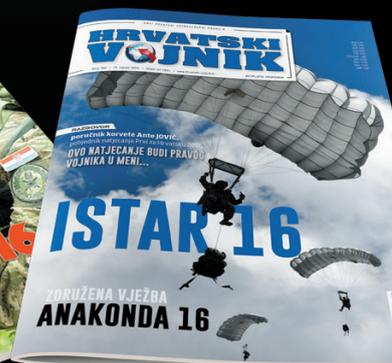
FIRST CROATIAN MILITARY JOURNAL

# HRVATSKI VOJNIK

**PUBLISHED SINCE 1991**

... provides information on the activities in the Ministry of Defence of the Republic of Croatia and the Croatian Armed Forces and features articles about foreign armed forces, armaments and military technology, military history and other current military topics...

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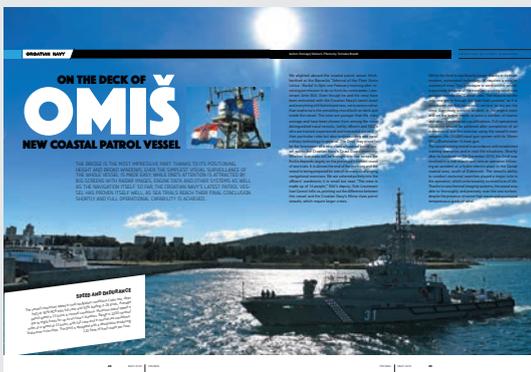
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## ANNIVERSARY

TEN YEARS AGO, ON 1<sup>ST</sup> APRIL 2009, THE INSTRUMENTS OF CROATIA'S ACCESSION TO NATO WERE FILED WITH THE U.S. STATE DEPARTMENT AND ONE OF CROATIA'S LONG-TERM FOREIGN POLICY GOALS WAS REALIZED. IN A SHORT TIME, CROATIA HAS DEVELOPED COMPACT, FLEXIBLE AND MOBILE ARMED FORCES PREPARED TO RESPOND TO CURRENT AND FUTURE THREATS ALONGSIDE THEIR ALLIES WITHIN NATO...



# CROATIA

Top state officials and numerous other guests gathered at the official ceremony marking the 10<sup>th</sup> anniversary of the Republic of Croatia's accession to NATO in the Crystal Ballroom of the Westin Hotel, Zagreb on 29<sup>th</sup> March. The ceremony was hosted by the President of the Republic of Croatia and the Commander-in-Chief of the Croatian Armed Forces Kolinda Grabar-Kitarović, the Speaker of the Croatian Parliament Gordan Jandroković and Croatian Prime Minister Andrej Plenković.



The anniversary ceremony was attended by the Vice-President of NATO's Parliamentary Assembly Michael R. Turner, the Head of the Croatian Delegation at the NATO Parliamentary Assembly Miroslav Tudman, Deputy Prime Minister and the Minister of Foreign and European Affairs Marija Pejčinović Burić, Deputy Prime Minister and the Minister of Defence Damir Krstičević, the Chief of the General Staff of the Croatian Armed Forces General Mirko Šundov, the Minister of Homeland War Veterans' Affairs Tomo Medved as well as representatives of the Military-Diplomatic Corps in the Republic of Croatia, NATO Parliamentary Assembly, the Ministry of Defence of the Republic of Croatia and the Croatian Armed Forces.

### OPEN DOOR POLICY

The ceremony opened with greetings to the assembled guests from Miroslav Tudman, who expressed his satisfaction and pride due to the success that the Republic of Croatia has enjoyed within NATO so far. In her speech, the President stressed that Croatia had provided added value to NATO in the last decade, making its contribution to the new world order and to the promotion of ideals that will lead the Euro-Atlantic alliance into a better future. She also recalled the vital contribution of all veterans of Croatia's Homeland War, who had laid



# 10 YEARS OF NATO MEMBERSHIP FOR THE REPUBLIC OF CROATIA



## RELIABLE ALLY AND VALUED ADDITION TO NATO

the foundations of the modern Croatian Armed Forces through their courage, valour and professionalism. Furthermore, the President extended her appreciation to all serving personnel of the Croatian Armed Forces for their prompt execution of all tasks both at home and abroad. "Together with our allies, we continue to strive for the ideal of a complete, free Europe, a Europe living in peace," the President said.

The Speaker of the Croatian Parliament Gordan Jandroković emphasized that Croatia had proven itself to be a solidary and reliable member of NATO not only with its allies but also with the people in the countries where it had been participating in missions over the last decade. "We add value in that we advocate an open door policy and the expansion of NATO into South-east Europe so that this region could become an area of peace, security and stability," said Mr Jandroković.

Confirming that Croatia had demonstrated its value as an ally, Mr Plenković announced that the country would continue to maintain a consistent policy within NATO. "It is good for our own security, it is our contribution to the security of this region and throughout the world," the Prime Minister said. The Vice-President of NATO's Parliamentary Assembly Michael R. Turner added that Croatia's experience as a NATO member state had served as a positive example for all future members of the Alliance.

The Minister of Defence Damir Krstičević emphasized the role of Croatia's soldiers in NATO's missions. "The Croatian soldier is highly regarded and respected. We are the ambassadors and guarantors of peace and security in Croatia," said Mr Krstičević. On the occasion of the 10<sup>th</sup> anniversary of the Republic of Croatia's accession to NATO, Croatia Post issued a commemorative stamp, which was unveiled at the ceremony. A screening of the documentary film *Ten Years of the Republic of Croatia in NATO* as well as performances by the Croatian Navy's Vocal Ensemble *Sveti Juraj (Saint George)* and the Jazz Orchestra of the Croatian Armed Forces were also part of the ceremony.

### PATH TO MEMBERSHIP

In 2000, Croatia became part of NATO's Partnership for Peace programme. Two years later, it was invited to join NATO's Membership Action Plan. At a summit in Riga in 2006, NATO declared its readiness to offer membership of the Alliance to candidates that had met conditions for entry. Croatia received an invitation to join NATO at its April 2008 summit in Bucharest. The path to membership concluded with the ratification of accession treaties in the national parliaments of NATO member states and the filing of Croatia's accession instruments at the U.S. State Department, which serves as the depository of the North Atlantic Treaty Organization.

## REALIZATION OF A FOREIGN POLICY GOAL

Ten years ago, on 1<sup>st</sup> April 2009, the instruments of Croatia's accession to NATO were filed with the U.S. State Department and one of Croatia's long-term foreign-policy goals was realized.

It was an outstanding achievement for Croatia. In just fifteen years, it had developed from a country receiving international aid to a country actively providing international aid and contributing to the maintenance of worldwide peace and stability.

From the moment it joined the Alliance, Croatia has been actively participating in NATO's most important endeavours and missions. At this moment, Croatian Armed Forces personnel are contributing to stabilization missions in Afghanistan and Kosovo. In addition, Croatia has been an active participant in NATO's enhanced Forward Presence in Poland and Lithuania since the end of 2017. Since joining NATO, Croatia has consistently proven itself a reliable and dedicated member of the Alliance. It actively participates in consensus-led discussions and decision-making processes at NATO Headquarters in Brussels, contributing directly to the accomplishment of NATO's endeavours whilst at the same time advocating its own views, foreign policy and national interests.



The commemoration of the 10th anniversary of the Republic of Croatia's accession to NATO officially began with a ceremony at NATO Headquarters in Brussels on 22<sup>nd</sup> March. The ceremony featured a performance by the Jazz Orchestra of the Croatian Armed Forces, who performed at NATO Headquarters for the first time. The ceremony was attended by the Prime Minister of the Republic of Croatia Andrej Plenković, the Chief of the General Staff of the Croatian Armed Forces General Mirko Šundov and Assistant Defence Minister for Defence Policy Petar Mihatov.

The first summit at which Croatia participated as a full-fledged member of the North Atlantic Treaty Organization took place in Strasbourg and Kehl in April 2009. The following year, Croatia played a role in drafting the Alliance's new Strategic Concept, a key document outlining NATO's principle roles for the current decade.

Over the last ten years, Croatia has established itself as one of the leading champions of further NATO expansion into South-east Europe. The Croatian Armed Forces have been sharing their own experience of the journey towards NATO membership with friendly countries in the region, helping them on their path towards Euro-Atlantic integration through collaboration on training and education, working with them in peace-keeping operations and assisting them as they realign and develop their defence systems.



Montenegro acceded to NATO as its 29<sup>th</sup> member in 2017 and North Macedonia stands at its gates. For years, Croatia has been working with these two countries on defence projects, while their armed forces train and prepare for NATO missions with the Croatian Armed Forces at training ranges in Croatia.

In a short time, Croatia has developed compact, flexible and mobile armed forces prepared to respond to current and future threats alongside their allies within NATO, as Deputy Prime Minister and the Minister of Defence Damir Krstičević has stated on previous occasions marking Croatia's accession to the NATO alliance.

In line with the agreements made at summits in Wales in 2014 and at Warsaw two years later, Croatia has consistently been increasing its defence budget so as to continue developing modern, well-equipped and well-trained



armed forces fully compatible with its military partners and allies. Such forces are capable of deterring potential security threats and are ready to contribute to international peace and security as well as provide help to civil institutions.

## PEACEKEEPING OPERATIONS AND MISSIONS

Since the beginning of 2015, the Croatian Armed Forces have been participating in NATO's peace-keeping mission Resolute Support (RS) in Afghanistan, where their main tasks are to train and advise the Afghan National Security Forces. Currently, the 10<sup>th</sup> Croatian Contingent in Resolute Support is deployed. This peace-keeping mission was preceded by security mission ISAF, in which Croatia began participating in 2003, when a Military Police platoon arrived in the capital Kabul. Security mission ISAF ended in 2014 and ISAF's 24<sup>th</sup> Croatian contingent became the 1<sup>st</sup> Croatian contingent of Resolute Support on 1<sup>st</sup> January 2015.

The 30<sup>th</sup> Croatian contingent in KFOR, comprising 35 personnel and two helicopters, is currently serving in Kosovo. The contingents' main role is transporting KFOR units, cargo and VIPs. The Croatian Armed Forces have been participating in this NATO operation since 2009. Last September, a crew from the Croatian Armed Forces

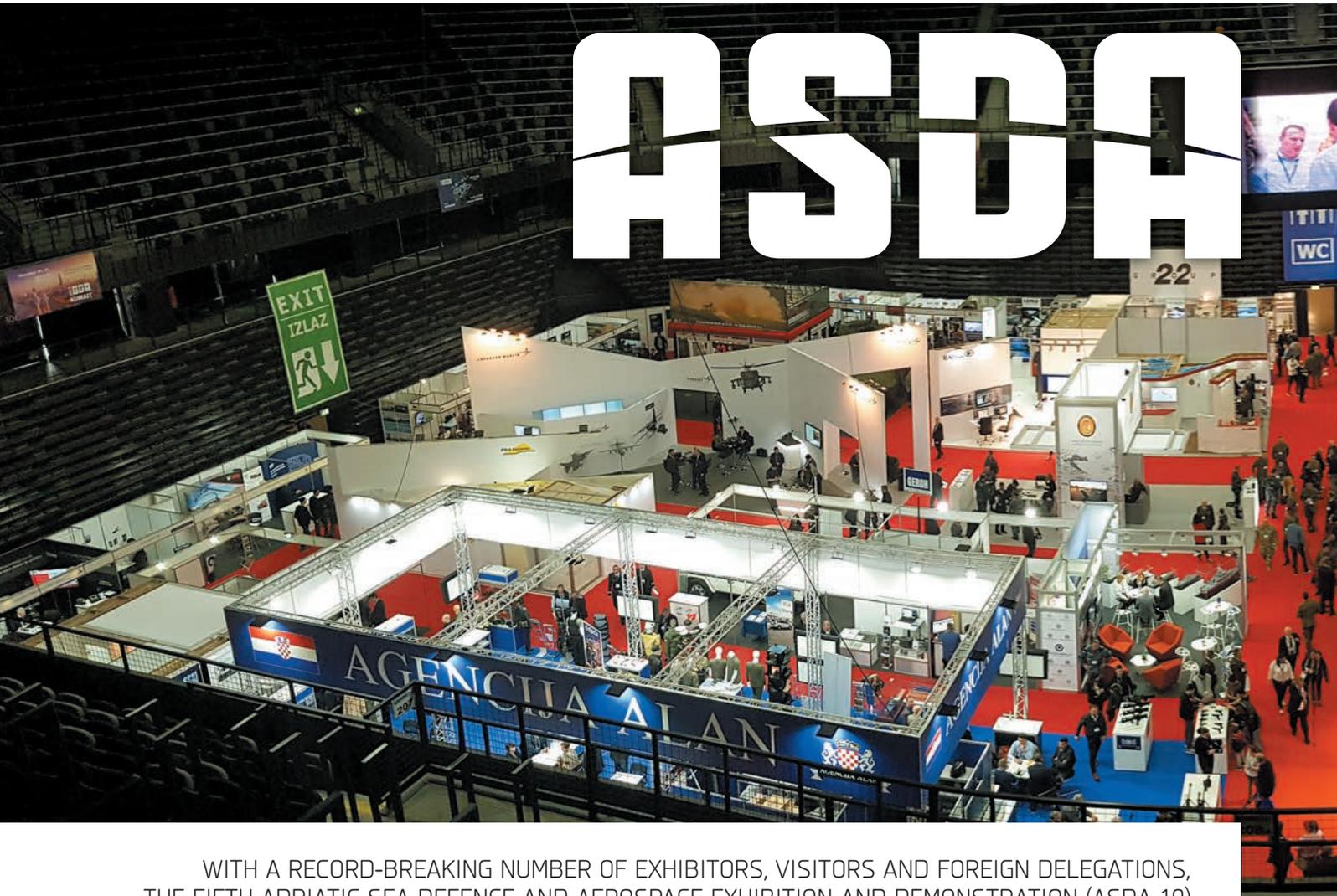


and the *Vukovar* missile boat were deployed to NATO's maritime security operation *Sea Guardian* in the Mediterranean. Upon joining the operation, the 1<sup>st</sup> Croatian contingent undertook non-combat tasks focused on the creation of a comprehensive picture of the security situation in the Mediterranean and the establishment of common maritime security.

The tenth anniversary of Croatia's accession to NATO will be marked with *Immediate Response 19*, an exercise jointly conducted by the Croatian Armed Forces and the armed forces of Albania, Bosnia and Herzegovina, France, Hungary, Italy, Kosovo, Montenegro, North Macedonia, Poland, Slovenia, the United Kingdom and the United States of America. The objective of the exercise, which will be held in Croatia, is to promote stability, co-operation, the strengthening of capabilities and the development of trust through the advancement of interoperability between NATO and its partner countries.



# ASDA



WITH A RECORD-BREAKING NUMBER OF EXHIBITORS, VISITORS AND FOREIGN DELEGATIONS, THE FIFTH ADRIATIC SEA DEFENCE AND AEROSPACE EXHIBITION AND DEMONSTRATION (ASDA 19) FEATURED MUCH NEW CONTENT, RAISING THE BIENNIAL EVENT'S QUALITY AND APPEAL TO NEW LEVELS. WITH ENTHUSIASTIC SUPPORT FROM THE CROATIAN MINISTRY OF DEFENCE AND THE CROATIAN ARMED FORCES, THE EXHIBITION IS TO SET TO CONTINUE FOR MANY YEARS TO COME...



Should the Adriatic Sea Defence and Aerospace Exhibition and Demonstration become a tradition in the future, its fifth edition, held in Split's Spaladium Arena from 10<sup>th</sup> to 12<sup>th</sup> April, will go down as one of its most significant. Records were broken across all areas (exhibitors, delegations and participating countries), proving that the exhibition has made a name for itself in a global sea of similar events. ASDA's reputation, significance and quality transcend the boundaries of its primary market in Central and Southeast Europe. The record-breaking size and turnout mean that ASDA will surely continue. Deputy Prime Minister and the Minister of Defence Damir Krstičević and the President of TNT Productions Justin Webb signed a formal agreement on the continued collaboration for organizing ASDA. Details of the deal have not been released yet, but with significant international

# GOES ON



influence provided by 75 Croatian defence industry corporations (such as Šestan-Busch, Brodosplit, HS Produkt and DOK-ING) and 110 globally-renowned companies (including Lockheed Martin, Elbit, Rafael, MBDA and Bell) all keen to present their wares at ASDA, it seems evident that there is no reason why it should not continue with ever-gathering strength. This year, 33 foreign delegations visited the exhibition, proving that ASDA has become an important forum for representatives of friendly governments and the defence sector. Through its Ministry of Defence, the Government of the Republic of Croatia provided vital support in facilitating the event. TNT Productions' President Justin Webb confirmed this at the official opening, describing the support provided by the Croatian Government and Ministry of Defence as vital, enthusiastic and continuing.

Along with Mr Krstičević and the Croatian Armed Forces Chief of the General Staff General Mirko Šundov, ASDA was attended by six Ministers of Defence (from Bosnia and Herzegovina, Georgia, Kosovo, Montenegro, the Philippines and Slovenia), two Deputy Ministers of Defence



(from Albania and North Macedonia) and three Chiefs of General Staff (from Hungary, Kosovo and Ukraine). Naturally, the opportunity was made use of to hold a number of bilateral meetings.

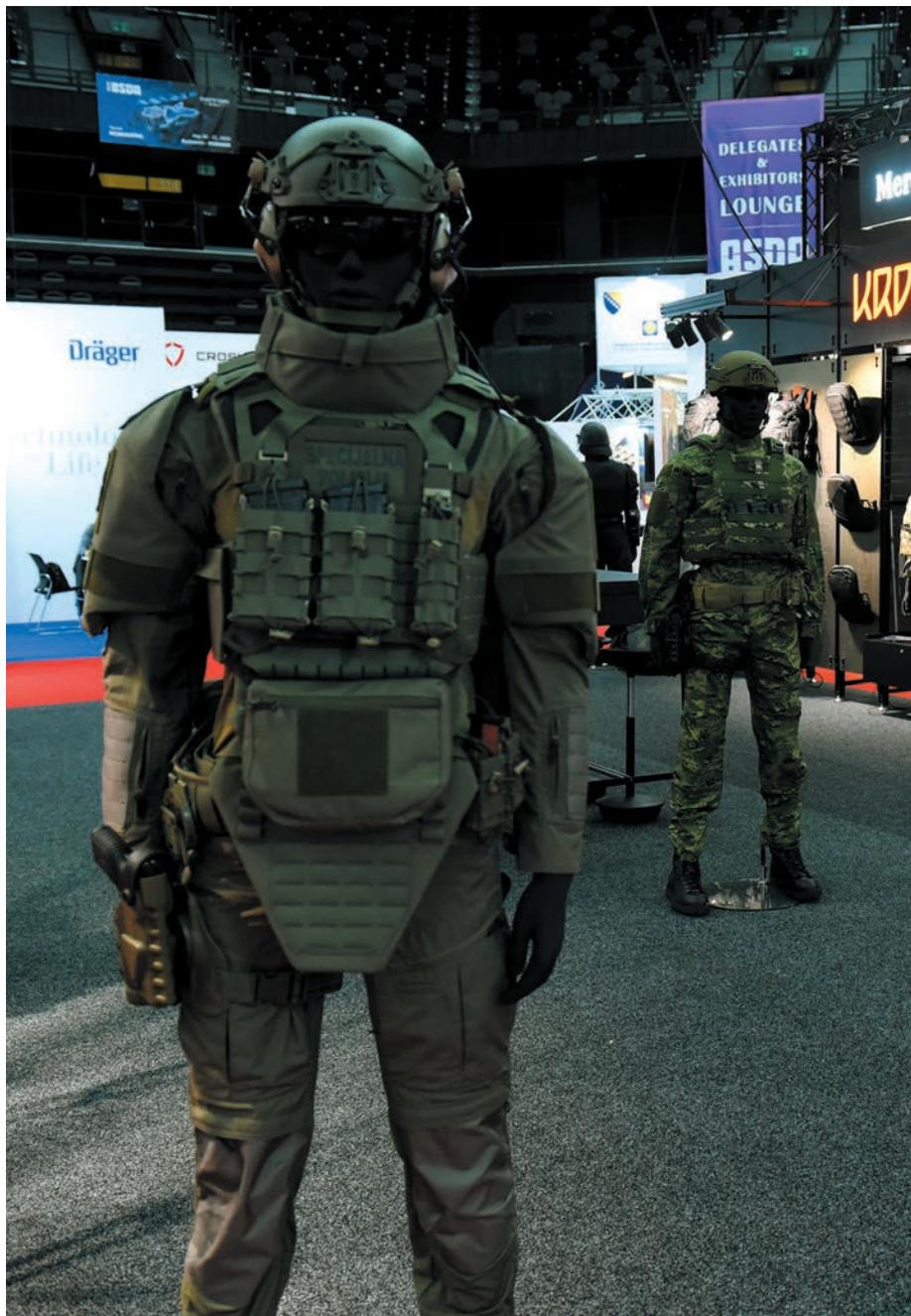
The exhibition hall, with its record-breaking number of corporate stands containing many interesting products and presentations, made for an impressive sight. Although the Spaladium Arena enjoys a significant capacity, every square inch was occupied by ASDA's 185 exhibitors, which makes one wonder how the space will be utilised if the number of participating entities continues to grow.



## CROATIAN COMPANIES

Although many world-renowned brands were present at ASDA, Croatian companies attracted the most interest. As is the custom, the largest stand in the exhibition hall was dedicated to Agency Alan, which represented roughly 30 companies belonging to the Croatian defence industry. "It is noticeable that our companies are rapidly developing their production, technology and knowledge so that their products can meet soldiers' needs. Foreigners are somewhat surprised by the diversity and quality on offer in a market as small as Croatia's," said Ivica Nekić, Chairman of the Management Board at Agency Alan.

Of course, there is always room for improvement. According to Nekić, Agency Alan's short-term priority is the manufacture of mortar and artillery shells. "Since ASDA 2017, we have developed and produced a substantial amount of mortar ordnance. This is a new capability that can be offered to the Croatian Armed Forces and also exported. We shall continue working on the development of artillery shells. We find that we have the knowledge, ability and opportunity to supply the Croatian Armed Forces and other interested buyers with our full range of mortar and artillery shells. That does not mean that we are giving up on the idea of establishing a factory where small-calibre ammunition for rifles and pistols can be produced. The project is ongoing and we have included ministries and other authorities in its realization. The project is complicated, expensive and technically demanding, yet it is inherently viable," Nekić concluded. Along with the mortar bombs on show, other items on Agency Alan's stand included three products by ATIR: the RWS Lynx 40 remote-controlled weapons stations with a 40x53mm automatic grenade launcher, corresponding grenades and composite armour.



The largest Croatian manufacturers had their own stands. Most visitors were attracted to that belonging to *HS Produkt*, a world-class manufacturer of small arms. *HS Produkt* used the opportunity to showcase their wide range of HS pistols and VHS assault rifles and make a major announcement – their collaboration with Belgian manufacturer *FN Herstal*. Appropriately, their stand also featured FN Minimi 5.56x45mm and 7.62x51mm light machine guns. According to the CEO of *HS Produkt* Željko Pavlin, they have struck a deal on joint industrial collaboration, manufacture and marketing with the Belgian company.



The “standard” variant of the Patria AMV 8x8, one of the Croatian Army’s most recognizable pieces of equipment, dominated all other exhibits inside the Spaladium Arena. Along with different variants of the AMV, Đuro Đaković Special Vehicles also showcased their capabilities for the maintenance, refurbishment and modernization of the M-84 tank and its forerunner, the T-72. The production of the M-84, which is used by the armed forces of Croatia and Kuwait, has just been completed at the premises of Đuro Đaković Special Vehicles. “We have a lot of activities going on here. We have been visited by military delegations from many countries, especially from the Middle East. We have some options in that region and there appears to be an interest in the upgrading of existing vehicles as well as the production of new ones. Whether the contacts we have made at ASDA lead to anything is yet to be seen,” commented Bartol Jerković, Chairman of the Management Board at Đuro Đaković Special Vehicles. Representatives of Šestan-Busch, probably the world’s leading protective helmet manufacturer, were also pleased with ASDA 2019 and the visits from foreign delegations. “We recently closed a deal to export 20,000 helmets to the United Arab Emirates and the country’s representatives came to the exhibition to see what other products we had in development. We were extremely pleased to hear from the American delegation that a U.S. institute of technology tested one of our helmets and confirmed its superiority to a rival American-made product. In the future, we will be moving toward equipping the Croatian soldier from head to toe and integrating our systems with the systems made by Croatian companies in other production areas.

## ASDA 201 – 2019

EXHIBITION	CROATIAN EXHIBITORS	FOREIGN EXHIBITORS	EXHIBITING COUNTRIES	STATE AND MILITARY DELEGATIONS
ASDA 2011	54	84	23	18
ASDA 2013	51	55	19	25
ASDA 2015	46	55	19	25
ASDA 2017	63	68	22	33
ASDA 2019	75	110	26	33

The two manufacturers also wish to jointly develop a new light machine gun for the Croatian Armed Forces. Although no details about the possible modification or production of some parts of the Minimi in Croatia have been revealed as of yet, these two big names in the production of light machine guns wish to enter other markets together. Another innovation on the *HS Produkt* stand was a prototype brass catcher for the VHS-2 rifle. The brass catcher is essentially a bag attached to the ejection port so as to capture spent cartridge casings. A liberal estimate of its capacity is 90 rounds (equivalent to three magazines).



## ADRIATIC SEA DEFENCE AND AEROSPACE EXHIBITION AND DEMONSTRATION



That would be the concept of the Croatian soldier for the future and the Croatian defence industry has the potential to realize that project by 2040," said Goran Basarac, Executive Director of Strategic Planning and Project Implementation at Šestan-Busch. Mr Basarac was recently appointed President of the Croatian Defence Industry Competitiveness Cluster, the co-ordinating body for such initiatives. A potentially futuristic project exhibited at ASDA was the TAKRAD, an advanced tactical radio for reliable and encrypted data and voice communication based on SDR (software-defined radio) technology. TAKRAD is a joint venture of two Croatian companies (*RIZ Profesionalna elektronika* and Impel Group) and is currently under evaluation by the Croatian Armed Forces.

Interpersonal communication is not the only thing that TAKRAD offers. Thanks to its integrated and external sensors (GPS, accelerometer, dosimeter, heart rate monitor, etc.), the system can provide information about a soldier's location and physical condition. Also, it automatically recognizes dangerous situations and sends notifications via a robust secure channel. The device is secured with a 256-bit key, meaning it is virtually impossible to hack. Its security system has been verified by the U.S. National Security Agency (NSA) as being completely safe. The device is equipped with various phone combinations, a high-capacity power bank, numerous antennas and many other pieces of equipment, depending upon the user's needs.





## ROBUST AND PROFESSIONAL

The most attractive part of each ASDA is the live demonstration – an opportunity for the Croatian Armed Forces to impress delegates immediately following the official opening. Frankly, it was unclear until the last minute whether the demonstration would take place at all, for heavy rain had descended upon Split that morning, reaching its peak at noon, just when the exercise was due to begin.

The scenario foresaw some of the most demanding tactical operations, such as descending onto the deck of a moving vessel from a helicopter. However, rain did not prevent the Croatian Navy, Croatian Air Force and Special Forces Command from demonstrating their considerable abilities to colleagues from the Ministry of Defence and the Croatian Armed Forces, the representatives of elite defence industry corporations from Croatia and elsewhere as well as foreign official delegations. In short, the Croatian Armed Forces units gave a thoroughly good account of themselves and their high-quality Croatian-made equipment.

The marines of the Naval Infantry Company and the *Omiš* coastal patrol vessel prototype also made their debut at the exercise. "Nothing can stand in the way of the Croatian Armed Forces. Our soldiers have demonstrated their joint capabilities, their aptitude and their readiness to execute any given task. In summary, they have proven themselves to be robust and professional," underlined Minister Krstičević while congratulating the soldiers.



A similar device was presented by the Marine Electronic Centre from Split. Their TelSec crypto-communication device meets all the standards for secure voice, data and video communication via VoIP (Voice over Internet Protocol) and analogue telephones. Small and compact, the device can be used in all conditions and on various military platforms on land, at sea and in the air.

A marvellous sight in the exhibition hall was a mobile crisis management centre. This system, developed by Croatel, transmits video signals from remote locations to selected users. It can be used in the event of a fire or flood, in search-and-rescue operations and in other life-threatening situations. An image, even one taken with an ordinary mobile phone, can be sent to this mobile centre, where information is processed and forwarded to relevant organizations, such as the Ministry of the Interior, fire fighters, Croatian Motorways, *Hrvatska elektroprivreda* (Croatia Electricity), *Hrvatske šume* (Croatian Forestry Commission), etc. Data can be collected with CCTV, drones, radar stations and others. To a layperson the multitude of consoles, screens and maps inside the truck is phenomenal.

*Kroko* is a long-time partner of the Ministry of Defence and the Croatian Armed Forces. Croatian soldiers are equipped with the company's uniforms, backpacks, vests and other parts of individual equipment. *Kroko's* stand always attracts a lot of attention at ASDA and this year was no exception. Different variants of uniforms, backpacks



## ADRIATIC SEA DEFENCE AND AEROSPACE EXHIBITION AND DEMONSTRATION

and vests, developed over the last year and a half, were on display. "We have made significant changes to the range of products that we offer and deliver to our buyers around the world. Today, the basis of our product range is backpacks and other products made of cordura fabric. We try to show the full range of our products on static models. We continually develop uniforms and try to keep up with the times and the market. The Croatian Armed Forces are of great assistance to us since the soldiers' experience from field tests are our key reference. Until yesterday, we looked up to top-level foreign manufacturers. Today, they are looking up to us and that is our greatest achievement," says Ivan Marenić, Commercial and Marketing Director at *Kroko*.

However, a look at the Croatian defence industry should not be restricted to the "big players". Some interesting small companies were also present at ASDA, such as *GearSkin*, a developer of self-adhesive camouflage fabric. The fabric comes in diverse patterns and is delivered to customers in sheets which can be cut and stuck to glass and other surface types. It is possible to customize the fabric for end-users and produce fixed forms for guns, helmets, scabbards as well as various optical and multimedia accessories.



The fabric is firm, inflammable and resistant to water, oil and acids. Furthermore, it eliminates reflection. "Every day, we discover a new application for the material," say the company's representatives. Their products are sold in over 15 countries across Europe, North America and Asia and users include the Special Operations Bureau of the New York Police Department. *GearSkin*'s stand was small, but ingeniously designed: it featured various products (rifles, helmets, uniforms, cameras, etc.) covered in the company's fabric.

Shipbuilder *Brodosplit* placed its coastal patrol vessel project at the forefront of its stand. This came as no surprise, since the prototype was recently procured by the Croatian Navy. Scale models on *Brodosplit*'s stand depicted various phases of the vessel's construction at the shipyard in Split.

Edo Trevižan, Technical Director at *Brodosplit*, expressed his belief that the *Omiš* coastal patrol vessel exceeded the needs of the Croatian Navy: "We expect to continue producing that line of vessel, which will serve as the pride of the Croatian shipbuilding industry. We are happy that Croatian and foreign delegations had a chance to see the finished product, the *Omiš*, undergoing sea trials from Barracks "Sveto Leticia – Barba" in Split. We believe that the characteristics of our vessels are superior to those of rival craft." A question about the future followed: could *Brodosplit* develop a larger, offshore patrol vessel or even a corvette? "You can bet on that! In fact, we are already working on it; we are preparing dossiers which will define the course in which we could take the project with the Ministry of Defence," Trevižan replied.

Cyberspace, as the fifth dimension of warfare, is a topic of growing interest. Interesting information could be heard about it on the stand belonging to the Croatian company *CS Computer Systems*. "Our segment of the market is gaining visibility at these events and within the defence sector as a whole. We have been collaborating with the Ministry of Defence for years and continue to be at the disposal of the Ministry and other state authorities as they continue increasing the security level of their IT systems. Foreign delegations at ASDA have also expressed interest in our work. Our company has existed for 30 years and we have been undertaking cyber security for the last 15 years. Looking back, we probably should have started undertaking it earlier than that. With time, attacks upon information systems have grown more complex. With our partners, we implement solutions that add an additional layer of protection to their systems.



## CROATIAN DEFENCE INDUSTRY AND NEW TECHNOLOGIES PANEL

ASDA ought to be more than just an exhibition; it ought to offer content that will enhance the interaction between defence industry corporations, state authorities, defence and security authorities, scientific community and academia. For the first time, ASDA featured a panel entitled "Croatian Defence Industry and New Technology". The panel, organized by the Ministry of Defence and daily newspaper *Slobodna Dalmacija* (Free Dalmatia), featured international defence industry leaders.

In addition, the panel was attended by numerous state and military delegations, representatives of the Ministry of Defence, the Croatian Armed Forces, ASDA's co-organizer TNT Productions and the Croatian Chamber of Commerce as well as security experts and military analysts.

The Croatian Armed Forces Chief of the General Staff General Mirko Šundov and CROMIL's own expert associate Professor Marinko Ogorec reflected on new defence technologies' potential to advance and increase national security but also on the threats and hazards they can cause.

The speakers at the panel were Subeji Kalo, Sales & Business Development Director at DOK-ING; Željko Pavlin, CEO of *HS Produkt*; Jonathan Hoyle, Vice President Europe & the Americas at Lockheed Martin; Amihai Dekel, Director of Marketing and Business Development at Rafael; and Goran Basarac, Executive Director of Strategic Planning and Project Implementation at Šestan-Busch. The panellists shared experiences from their production domains and thoughts about the direction in which their current projects might develop in the future. Other topics of conversation were the possibility of integrating various technologies into a single system and the threats that those technologies posed. The two-hour panel featured interesting conversations that went beyond the scope of the Croatian defence industry. It was especially intriguing to see representatives of Croatian manufacturers put forward facts and examples that were as interesting as those of their peers from such defence industry giants as Lockheed Martin or Rafael.

All parties demonstrated equal enthusiasm in their work on futuristic projects. We believe that future editions of ASDA will feature more such panels and hopefully more participants. That was indirectly stated by the President of TNT Productions Justin Webb, who thanked the Ministry of Defence and *Slobodna Dalmacija* for organizing the panel, adding that such an event was necessary so that ASDA could continue to grow.

Moreover, we provide services which are tailored to the user's needs. Active, not passive protection is in demand today. Choosing an appropriate protective solution is no easy task. That is why we advise our clients to do a full security scan of their IT systems before taking any further steps. Our company also owns security clearances issued by the Croatian Office of the National Security Council, demonstrating that our employees have the appropriate qualifications for their job," explained Goran Žagar, Key Account Manager at CS Computer Systems.

The scientific and educational component of the exhibition should not be ignored, either. The Croatian Defence Academy presented its study programmes, while its partners (civil university faculties as well as technical associations and companies collaborating with or operating within them) showcased their projects. The ideas and products that we saw prove that Croatian academics, their students and associates are actively developing dual-use projects.

*Aerotehnička udruga Split* (Aerotechnical Association Split) and the Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture from Split presented the VECTOR VX-3 unmanned aircraft prototype; H2O Robotics, a spin-off company of the Faculty of Electrical Engineering and Computing from Zagreb, showcased their H2Omni-X modular unmanned surface vehicle; a team of students from the Faculty of Mechanical Engineering and Naval Architecture from Zagreb are developing an aircraft with the following essential requirements: a single propeller, default dimensions and as great a payload as possible. The Faculty of Chemical Engineering and Technology from Zagreb demonstrated a portable water purifier which may come in handy in crisis situations.

IT IS HARDLY NEWS THAT CROATIAN SOLDIERS ARE NOT ONLY RECOGNIZED AND APPRECIATED AS TOP PROFESSIONALS, BUT ALSO PERCEIVED AS HONEST FRIENDS AND PARTNERS BY THE LOCAL POPULATION IN EVERY MISSION OR OPERATION IN WHICH THEY ARE DEPLOYED. DURING OUR VISIT TO THE 2<sup>ND</sup> CROATIAN UNITED NATIONS CONTINGENT IN LEBANON, WE WITNESSED THE VALUES POSSESSED BY CROATIAN SOLDIERS AND WERE ONCE AGAIN FILLED WITH SINCERE PRIDE...



# VISIT TO CROATIAN

*CROMIL's* team visited members of the 2<sup>nd</sup> Croatian Contingent in early April and testified to the reputation they had built with their knowledge and capabilities, but above all with their professional and responsible attitude towards each and every task. They have been engaged in the UNIFIL mission since last October and in a short time have become recognizable at every stage, both in the area of operation and among the civilian population. Many of them probably never imagined that their military calling would bring them to Lebanon, let alone that they would leave a permanent mark of Croatia's presence with their engineering services.

## **CAMP SHAMA**

Although rather exhausted by the all-night journey, we tried to stay awake during the drive from Beirut to Camp Shama so as to soak up initial impressions about the country in which we had just arrived. Modern, luxuriously decorated buildings that do not lag behind similar buildings in the world's most famous capitals stand beside underdeveloped areas. As we approached the Croatian soldiers' accommodation in the south of the country, those differences became more pronounced. Next to a castle-like building, one can see a seemingly desolate



Text by Željko Stipanović, Photo by Tomislav Brandt



# SOLDIERS IN LEBANON

facility of indeterminate date of origin. The types of car on the roads would make one think one was in one of the most developed countries in the world. At the same time, the streets are swamped with makeshift repair shops where owners of those same luxury cars would not deign to park their vehicles. All of this paints a vivid picture of the layered, divided and manifold character of the local population's living standards. From the road, we observed numerous plantations where bananas, lemons, tangerines and other fruits are grown. These plantations speak volumes about the difficult and demanding life in the south. Nevertheless, numerous active construction

sites give rise to optimism and send a message that significant efforts are being invested into the country's economic recovery. One of the first rules to which we were introduced upon our arrival in Lebanon seemed incomprehensibly rigorous to us: no photography or filming was allowed without individual approval for each occasion. Such a rule denied us the opportunity to register the juxtapositions we were witnessing. However, after an additional explanation that asking permission to take photographs was a matter of decency, custom and culture in Lebanon, we became aware of the fact that we had to follow the conventions of the host nation.



It was a welcome change for somebody hailing from a country such as Croatia, where people grab their mobile phones to record every, even the most trivial event so as to arouse the interest of the people around them, even at the cost of losing the bare minimum of privacy.

After a two-hour drive, we arrived at a well-built Camp Shama, where personnel of the 2<sup>nd</sup> Croatian Contingent are based. Along with them, we were greeted by the members of the Italian Armed Forces from UNIFIL's Strategic Communication and Public Information Office, who supplied us with essential information regarding our stay. The camp offers numerous amenities designed to make the soldiers' months-long separation from their families as painless as possible. However, most Croatian soldiers told us that numerous military tasks they performed there took up their whole day and thus alleviated the feeling of separation from their loved ones. In view of this, we could hardly wait to join our soldiers at some of their tasks.

Before setting off, the Commander of the 2<sup>nd</sup> Croatian Contingent Major Siniša Šlibar introduced us to the basic role of the Croatian soldiers, who form part of the Combat Support Battalion in Sector West (SW), performing all kinds of engineering services. "They protect UN forces by constructing and renovating pillboxes, maintaining safety fences and creating better living and working conditions for all participants in the UNIFIL mission," Šlibar said.





## ACTA NON VERBA – DEEDS, NOT WORDS

A visit to a secondary school in Chahabiya, where Croatian soldiers are performing engineering tasks, impressed us, since such construction works are not only an investment for the future, but also a lasting mark of the Croatian presence in Lebanon. We were impressed not only with the construction works, but also with the delight of local children when they saw the flags on the shoulders of Croatian soldiers as they exited their vehicles. Spontaneously, they began shouting in chorus: “Modrić! Mandžukić! Rakitić!”



## UNIFIL

UNIFIL is deployed in southern Lebanon. Its area of operations stretches from the Litani River in the north to the so-called Blue Line (BL), a demarcation line between Lebanon and Israel in the south and south-east of Lebanon. Since 18<sup>th</sup> October 2018, the Commander of Sector West (SW) has been Brigadier General Diodato Abagnara (Italian Armed Forces). In July 2007, the Croatian Armed Forces began participating in UNIFIL by deploying a staff liaison officer to the Mission's Command. The liaison officer's task is to keep an eye on the BL, especially in situations that could potentially escalate tensions between Israel and Lebanon.

Since April 2018, the Croatian Armed Forces have been contributing more significantly to UNIFIL by deploying the Engineer Company to Sector West, the headquarters of which are at United Nations Position (UNP) 2-3 Camp Shama. At present, 52 members of the 2<sup>nd</sup> Croatian Contingent are serving in UNIFIL as part of the Combat Support Battalion of the Garibaldi Brigade of the Italian Armed Forces.

The basic task of the Engineer Company within the Combat Support Battalion is to provide the forces in Sector West with the required support by implementing force protection measures and supporting their mobility in the area of operations.





Once again it got us thinking about how we will probably never fully comprehend Croatian footballers' contribution to the international reputation of Croatia around the world with their historic success at last year's FIFA World Cup. Those children in Lebanon are a testament to that. The school principal Ali Ibrahim Darwish thanked the Croatian soldiers for undertaking the construction works and pointed out: "The forces of UNIFIL are peace messengers. Peace is a common factor between our work as teachers and UNIFIL's peace messengers. I want to thank the Croatian people and UNIFIL. I am very satisfied because they are doing their job very well." Croatian soldiers responded bashfully to the praise, simply shrugging and saying that they were merely doing their job. That may be true, but their respect for and appreciation of the local population adds value to their work. The Commander the Engineer Company Captain Luka Dodig is a Croatian officer who does not say much, but is constantly working or thinking about what could be improved. Visibly proud, he introduced us to the Leader of the Infrastructure Squad Sergeant Hrvoje Janković, who keeps a firm hand on the construction works at the school. Sergeant Janković stressed that his six-man team performed all the locksmith and carpentry services both for UNIFIL's soldiers in their area of responsibility and the local population. "The construction works at the school were started four months ago. We hope that all planned activities will have been finished by the end of our deployment," Sergeant Janković said.



## BLUE LINE

Still amazed by all the praise, we left the school and paid a visit to Observer Group Lebanon (OGL) Patrol Base 1-31 at the Blue Line, where our engineers are carrying out various construction works.

The Blue Line is a 120-kilometre long demarcation line that was established by the United Nations, in association with Israeli and Lebanese officials, in 2000, with the aim of confirming the withdrawal of Israeli Defence Forces from Lebanese territory, in compliance with UN Security Council Resolution 425 (1978). It does not represent the official border between Israel and Lebanon and is without prejudice to any future border arrangement between the two countries. Unauthorized crossing of the Blue Line represents a violation of the provisions of UN Security Council Resolution 1701. One of the basic tasks of UN forces in UNIFIL is to ensure that the Blue Line is respected.

The ease with which our engineers operate powerful construction machinery proves that, no matter how good technology is, it can only be operational and efficient in capable hands. The Engineer Platoon's Leader, First Lieutenant Matija Merkaš emphasized that his platoon carried out engineering infrastructure works aimed at increasing the level of the UN force's protection: "We have recently completed the furnishing of several pillboxes and the area around them."

Seven engineers of the Croatian EOD/IEDD (Explosive



## MISSION ESTABLISHMENT

The UNIFIL peace-keeping mission in the Lebanese Republic was established by United Nations Security Council Resolutions 425 and 426 on 19<sup>th</sup> March 1978. Its initial objective was to monitor the withdrawal of Israeli forces from Lebanon, which they had invaded five days earlier. A further objective was to assist the Lebanese government in the restoration of their effective authority over Lebanese territory. After the Second Lebanon War in 2006, the UN Security Council approved Resolution 1701, which constitutes the legal framework of UNIFIL today and has in many ways enhanced the Mission in comparison to the Resolutions of 1978. The operation mandate is to monitor the cessation of hostilities, support the Lebanese Armed Forces in their deployment throughout the south of Lebanon and assist humanitarian organizations in the safe return of displaced persons.

Ordnance Disposal / Improvised Explosive Device Disposal) Team make up a heterogeneous international platoon together with five Italian colleagues. Their task is to facilitate continued mobility of UNIFIL soldiers should they come across improvised explosive devices or unexploded ordnance. "At any given moment, our team has to be ready to react anywhere in Sector West," said the EOD/IEDD Team Leader Sergeant First Class Krešimir Marjanović, adding that remote-controlled robotic systems were used for the reconnaissance, neutralization and destruction of explosive ordnance.

The camp where the Croatian soldiers are based was bustling with activity when we met the Leader of the Engineer Platoon's 1st Squad, Staff Sergeant Nikola Pešut, whose unit was busy with the refurbishment of the so-called HESCO bastion (baskets of woven hexagonal wire netting filled with rocks or other material) at the outer wall of the base. "We take this project on when we aren't busy with other CIMIC (Civil-Military Co-operation) projects. During our stay here, we have carried out improvement works at an observation post and on a road in Yaroun, for which we received a commendation," explained Staff Sergeant Pešut, a veteran of Croatia's Homeland War who joined the Croatian Armed Forces at the age of 17.

Owing to the Croatian soldiers' professional attitude towards every task and exemplary military conduct both within the base and beyond its walls, at the conclusion of our visit, the CROMIL team was received by the Sector

West Commander Brigadier General Diodato Abagnara. We shall long remember the pride we felt in our Croatian soldiers' outstanding service throughout every one of its assignments both at home and abroad. Although one is used to hearing praise about Croatian soldiers from all sides, including UNIFIL, it is always nice to hear it again. We believe the Contingent will complete their work in Lebanon successfully and return to Croatia safely.

Finally, we wish to give special thanks to the Second-in-Command of the Engineer Company Captain Tomislav Baša, who remained by our side throughout our stay in Lebanon and invested a lot of effort into making us feel comfortable so that we could return to Croatia enriched by our lasting impressions.

## MANDATE CONFIRMED WITH NEW RESOLUTION

In August 2017, the UN Security Council unanimously adopted Resolution 2373, which confirms the UN's mandate defined by Resolution 1701. In Resolution 2373, the Security Council reaffirms the necessity of accelerated and durable deployment of the Lebanese Armed Forces to southern Lebanon and the Republic's territorial waters. It also calls for the enhanced expansion of co-ordinated activities with the Lebanese Armed Forces. The Security Council also requests detailed reports on UNIFIL's activities and the implementation of the recommendations from the 2016-2017 Strategic Review. The Security Council renews UNIFIL's mandate annually at the request of the Lebanese government.

**MAJOR SINIŠA ŠLIBAR,**

COMMANDER OF THE 2<sup>ND</sup> CROATIAN CONTINGENT,  
UNIFIL PEACE-KEEPING MISSION

“THE CROATIAN ENGINEERS ARE HERE, THEY WILL TAKE CARE OF IT.” THESE WORDS, SPOKEN BY THE COMMANDER OF SECTOR WEST WHENEVER A PROBLEM NEEDS TO BE SOLVED, BEST DESCRIBE THE CONTRIBUTION OF CROATIAN FORCES TO UNIFIL AND THE REPUTATION THEY ENJOY WITHIN IT...



# CROATIAN ENGINEERS WILL TAKE CARE OF IT...

The UNIFIL peace-keeping mission's 2<sup>nd</sup> Croatian Contingent has been deployed in Lebanon since last October. We paid a visit to the Croatian soldiers, spent time with them in the field and spoke with their Commander, Major Siniša Šlibar about the tasks that the Contingent undertakes within its area of responsibility.

## WHAT ARE THE MAIN TASKS OF THE 2<sup>ND</sup> CROATIAN CONTINGENT IN THE UN'S PEACE-KEEPING MISSION IN LEBANON, SPECIFICALLY IN SECTOR WEST?

The Contingent's main role is to support the process of increasing the security level in the area of operations. Its personnel undertake various engineering works (e.g. refurbishing and enhancing facilities, pillboxes, fencing and access roads as well as removing road obstacles) so as to enable the unhindered movement of UN forces in the bases which house them. We primarily carry out engineering works in Sector West, which encompasses roughly two dozen UN bases. When necessary, the Head of Mission and Force Commander Major General Stefano Del Col asks us to carry out engineering works in all UNIFIL bases. The Croatian soldiers' engagement in CIMIC projects, through which they assist the local community, is also noteworthy.



*The Contingent's main role is to support the process of increasing the security level in the area of operations. Its personnel undertake various engineering works (e.g. refurbishing and enhancing facilities, pillboxes, fencing and access roads as well as removing road obstacles) so as to enable the unhindered movement of UN forces in the bases which house them.*

Vesna Pintarić, Photo by Tomislav Brandt

CROATIAN MILITARY MAGAZINE

### **WHO MAKES UP THE MAIN FORCE OF THE CONTINGENT? TO WHAT FORMATION IN UNIFIL ARE THEY ATTACHED?**

The Contingent is composed of 52 members of the Croatian Armed Forces. The main force is made up of the Engineer Company of the Croatian Army's Engineer Regiment. Some personnel belong to the Guards Armoured Mechanized Brigade and the Guards Motorized Brigade, while the Support Command and Intelligence Centre contribute one soldier each to the Contingent. In the area of operations, the Contingent's main force (43 sappers of the Engineer Company, including seven specialists of the EOD/IEDD Team) is attached to the Combat Support Battalion, which is led by the Italian Armed Forces. Five other members of the Contingent are attached to the Combat Service Support Battalion of Sector West. In addition, a Croatian officer performs the duty of Operations Officer at Sector West Command, where the Contingent's Commander is also based.

### **ONE OF YOUR TASKS IS TO ASSIST THE LOCAL COMMUNITY. WHAT PROJECTS ARE YOU INVOLVED WITH? HAS THE LOCAL POPULATION EMBRACED YOU?**

Since the arrival of the Contingent's main force in the area of operations last November, Croatian soldiers have been engaged in three CIMIC projects. The first project was the reconstruction, expansion and re-opening of several kilometres of macadam road in Yaroun, a village in the Irish Battalion's area of responsibility. Croatian soldiers are currently installing protective window grills on a secondary school in Chahabiya and should be finished with the project by the end of our deployment. All window grills are constructed in the base workshops and later installed on the school building.

We are almost finished with our third project, a full renovation of the interior of a scouts' club house in the village of Rumaysh. The sappers of this contingent, as with their predecessors, have been embraced by the local community while engaged on these projects. And just like in countless missions and operations before, Croatian soldiers have demonstrated that they approach each task with professionalism, understanding and sincerity. The locals have recognized that; they favour our soldiers and immediately recognize them by the flag on their uniforms. All of that contributes to the overall image of the Croatian Armed Forces. In general, the UN's forces in Lebanon have been well received as promoters of peace.

### **THE CROATIAN EOD/IEDD TEAM ALSO HAS A VERY RESPONSIBLE TASK...**

The EOD/IEDD Team executes tasks relating to all types of explosive ordnance. They dispose of unexploded ordnance, thus preventing potential incidents and ensuring the safe and unhindered movement of the UN's soldiers and Lebanese Armed Forces. Every day, they inspect the perimeters of UN bases, identify and mark potential minefields and investigate incidents as they occur. The EOD/IEDD Team is on alert 24/7, meaning that they are ready to react at any given moment within 30 minutes of being summoned. So far, they have been called to survey blast sites several times. In their everyday work, they use a remote-controlled robotic system for the reconnaissance, neutralization and destruction of improvised explosive devices. They collaborate with the sappers of the Italian Armed Forces, whose dogs are employed to detect mines and explosive ordnance.

On the occasion of the International Day for Mine Awareness and Assistance in Mine Action (4<sup>th</sup> April), we gave educational lectures and demonstrated the dangers posed by mines in several local schools. In that way, we not only continued the tradition started by UNIFIL's 1<sup>st</sup> Croatian Contingent but also contributed to the mission as well as to the general safety and welfare of the local population.

**We primarily carry out engineering works in Sector West, which encompasses roughly two dozen UN bases. When necessary, the Head of Mission and Force Commander Major General Stefano Del Col asks us to carry out engineering works in all UNIFIL bases.**



### **WHAT OTHER NATIONS MAKE UP THE COMBAT SUPPORT BATTALION? HOW IS YOUR CO-OPERATION WITH THEM?**

The main force of the 2<sup>nd</sup> Croatian Contingent is attached to the Combat Support Battalion. The majority of the Battalion's soldiers as well as its command staff come from the Italian Armed Forces. Besides them, the Battalion encompasses an Armenian platoon which is in charge of securing the base. The Battalion's structure includes a Signals Company, a CBRN Defence Platoon and a motor transport platoon tasked with the movement of soldiers in Sector West and its Commander.

### **YOU ARE ACCOMMODATED AT CAMP SHAMA. HOW WOULD YOU EVALUATE YOUR STAY SO FAR? ARE YOU SATISFIED WITH THE LIVING CONDITIONS IN THE BASE AND THE AMENITIES IT OFFERS?**

The 2<sup>nd</sup> Croatian Contingent is accommodated in the same base that houses Sector West Command and the Italian contingent's main force. It is about seven kilometres away from the Blue Line, the demarcation line between Lebanon and Israel. Since our arrival in the area of operations, the security environment has been stable. Naturally, since this is a crisis area, we must adhere to a number of safety rules, regulations and procedures. However, UN forces, including our contingent, have not been exposed to any greater dangers so far. As far as food, accommodation and other amenities are concerned, everything is top-notch and we are quite satisfied with all the sports, educational, religious and other facilities that the base has to offer.

### **YOU HAVE BEEN IN THIS MISSION SINCE LAST OCTOBER AND YOUR STAY HERE IS COMING TO AN END. HOW WOULD YOU EVALUATE YOUR ENGAGEMENT AND CONTRIBUTION?**

As our time here draws to a close, I feel honoured to have been given the opportunity to command a Croatian contingent within a UN mission, especially in an international environment as this one. Once again, our soldiers have demonstrated a high level of professionalism in the execution of their tasks. Our engineers have the pleasure of leaving a visible, permanent mark which will be of good use to the consumers of their services. I find this contingent's participation to have been as successful as that of the previous contingent. Moreover, I believe we shall successfully conclude all on-going projects by the end of our deployment.

"The Croatian engineers are here, they will take care of it." These words, spoken by the Commander of Sector West whenever a problem needs to be solved, best describe the contribution of Croatian forces to UNIFIL and the reputation they enjoy within it.

**Since the arrival of the Contingent's main force in the area of operations last November, Croatian soldiers have been engaged in three CIMIC projects.**



# ON THE DECK OF OMIS

## NEW COASTAL PATROL VESSEL



THE BRIDGE IS THE MOST IMPRESSIVE PART: THANKS TO ITS POSITIONING, HEIGHT AND BROAD WINDOWS, EVEN THE SIMPLEST VISUAL SURVEILLANCE OF THE WHOLE VESSEL IS MADE EASY, WHILE ONE'S ATTENTION IS ATTRACTED BY BIG SCREENS WITH RADAR IMAGES, ENGINE DATA AND OTHER SYSTEMS AS WELL AS THE NAVIGATION ITSELF. SO FAR, THE CROATIAN NAVY'S LATEST PATROL VESSEL HAS PROVEN ITSELF WELL, AS SEA TRIALS REACH THEIR FINAL CONCLUSION SHORTLY AND FULL OPERATIONAL CAPABILITY IS ACHIEVED...

### SPEED AND ENDURANCE

The vessel's maximum speed in trial navigation conditions (calm sea, clean hull) at 90% MCR with full crew and 50% loading is 28 knots. Average patrol speed is 15 knots in normal conditions. Minimum patrol speed is five to eight knots for up to six hours' duration. Range is 1000 nautical miles at a speed of 15 knots, with full crew and in normal sea conditions. Endurance is ten days. The *Omiš* is equipped with a desalinator producing 120 litres of fresh water per hour.

We alighted aboard the coastal patrol vessel *Omiš*, berthed at Barracks "Fleet Admiral Sveto Letica - Barba" in Split one February morning, after receiving permission to do so from its commander, Lieutenant Ante Silić. He and his crew have been entrusted with the Croatian Navy's latest asset. Even though everything still feels brand new, seriousness rather than euphoria is the prevailing mood both on deck and inside the vessel. The crew are younger than the Navy average and have been chosen from among the most distinguished naval recruits, led by officers and NCOs who are trained, experienced and interested not only in their particular roles but also in shipbuilding and naval military technology in general. The *Omiš* may prove to be the forerunner of a new class of coastal patrol vessel within the Croatian Navy's Coast Guard inventory. Whether that class will be brought into use across the flotilla depends largely on the prototype's current round of sea trials. It is almost the end of the morning and the vessel is being prepared for one of its many challenging navigational exercises. We are ushered politely into the officers' wardroom; it is small but neat. "The crew is made up of 16 people," Silić's deputy, Sub-Lieutenant Ivan Carević tells us, pointing out the difference between this vessel and the Croatian Navy's *Mirna* class patrol vessels, which require larger crews.

Whilst the *Omiš* is significantly larger, thanks to its more modern, automated technology, it requires a smaller number of crew. "It is a pleasure to work on this vessel, in particular because of the excellent working conditions and accommodation," Carević adds. The vessel is not the only one going through the "sea trials process" as it is introduced into full operational service; so too are the crew. Everybody working on deck, in the engine room and on the bridge needs to pass a number of exams and attain the necessary qualifications. Full operational capability should be achieved after the completion of an independent live-fire exercise using the vessel's main weapon, the SMASH naval gun system with its 30mm Mk44 Bushmaster-II chain gun.

The vessel is being tested in accordance with established training scenarios and in real-life situations. Shortly after its handover on 7<sup>th</sup> December 2018, the *Omiš* was involved in a real search-and-rescue operation following an accident at a hydro-electric plant in the Cavtat coastal area, south of Dubrovnik. The vessel's ability to conduct nocturnal searches played a major role in the operation, which unfortunately involved loss of life. Thanks to new thermal imaging systems, the vessel was able to thoroughly and precisely scan the sea surface, despite the presence of metre-high waves and occasional tempestuous gusts of wind.





## SMASH NAVAL GUN SYSTEM

Type	30-mm Mk44 chain gun
Calibre	30x173 mm
Mass	156 kg (including barrel)
Barrel length	2773 mm
Muzzle velocity	983 – 1225 mps
Rate of fire	200 rpm
Input voltage	24 V
Powder charge	double

## FAST INTERVENTION CRAFT 7.7 NAIAD

Length	7.70 m
Width	2.75 m
Length on waterline	6.40 m
Maximum mass	3500 kg
Deck payload	1000 kg
Speed	43 knots



What we found most interesting were the views of the crew, which can be summed up as follows; the platform is fast and stable –“it endures the sea well,” they say- the control, radar and weapons systems are modern and easy to use, while big advancements have been made in living and working conditions. One expects this of a new vessel, of course, particularly as the *Omiš* is the first coastal patrol vessel acquired in a long time.

During our short navigation of the seas around Split, the vessel’s speed was “tested to its limits” and we witnessed some more demanding tacking manoeuvres as well. At one point, a 7.7 Naiad fast intervention craft normally located in the stern was launched into the sea. A special system was used for lowering and retrieving the craft, which, it is worth noting, is also used by the Royal Australian Navy.

We glanced at the main armament. The crew had already fired it, supervised by a representative of the manufacturer, Turkish company Aselsan. The bridge is the most impressive part; thanks to its positioning, height and broad windows, even the simplest visual surveillance of other vessels is made easy, while one’s attention is attracted by big screens with radar images, engine data and other systems as well as the navigation itself. Then there are the weapons and signals systems consoles. The amount of data is immense and continues to be updated all the time. The systems are accessible and provide a clear image of the weather conditions in the surrounding area, sea state and everything else the crew needs to know. Whilst not exactly futuristic, one would say that

### Petty Officer First Class Marijan Mršić, Head of Weapons Unit

Until recently, I performed this duty on the *Novigrad* patrol vessel. When I was posted to the *Omiš*, I was happy, because of the opportunity to work on a new vessel with new weapons. Firing with Aselsan’s experts showed that operating the gun on it was less complex, while accuracy was more precise than on our other vessels. On the whole, the entire system is much easier to maintain.

it meets the standards of the most contemporary coast guards and navies.

Lieutenant Silić and some crew members have been with the *Omiš* since 17<sup>th</sup> September 2015, when the keel was laid. “The Ministry of Defence, the General Staff of the Croatian Armed Forces and the Croatian Navy have set a high bench mark from the start. Alongside the project team, we have followed the entire process of constructing and fitting out the vessel, from the paperwork onwards, in the dockyard and elsewhere. Crew training began three months before launch, which took place on 3<sup>rd</sup> June 2017. Throughout, we monitored construction and made suggestions, which in certain areas resulted in the implementation of some changes,” says Commander Silić, who formerly served as a commander on the Navy’s *Mirna* class vessels.

The coastal patrol vessel *Omiš* and its crew are vital components of the Croatian Coast Guard. “We patrol just like other vessels of the Croatian Navy, but we also undertake some tasks that they cannot, especially when it comes to search-and-rescue operations. We are at sea even at night and we have navigated in rough seas with waves up to four metres high. We note down everything that we observe, both the normal things and anything that could pose a problem in the long run. So far, the Croatian Navy’s latest patrol vessel has proven itself well, as sea trials reach their final conclusion shortly and full operational capability is achieved,” emphasizes Lieutenant Ante Silić.



### Petty Officer Third Class Ivan Milutin, Electro-Optical Systems (EOS) Operator

I participated in the search-and-rescue operation near Cavtat, in which the monitoring system's capabilities in a full-circle night search were demonstrated. Working on a new vessel with such experienced colleagues is an extraordinary experience.

## COASTAL PATROL VESSEL OMIŠ

The *Omiš* is a coastal patrol vessel of the Croatian Navy for Operating Area 3, according to the Croatian Shipping Register. It is a fast vessel with a single semi-displacement hull made of high-strength low-alloy steel, containing a superstructure of aluminium alloy, two diesel-powered engines and two variable pitch propellers.

The vessel's primary roles include patrolling for the purposes of monitoring and protecting the Republic of Croatia's maritime interests pursuant to the Act on the Coast Guard of the Republic of Croatia (providing support to other government bodies), preventing illegal immigration, preventing terrorist and pirate activity as well as smuggling, and environmental monitoring of the Adriatic Sea.

The vessel's secondary roles involve providing support to island populations and participating in maritime search-and-rescue operations. The vessel's combat roles include guarding territorial waters in wartime and providing combat and logistical support.

### GENERAL CHARACTERISTICS

Length overall	43.50 m
Hull length overall	42.70 m
Length on waterline	39.11 m
Width overall	8.00 m
Hull width	7.50 m
Hull height on mid-ship section	3.89 m
Draught above propellers	2.48 m

### ELECTRO-OPTICAL SYSTEMS (EOS) FOR MONITORING

- monitoring, uncovering and identifying waterborne crafts
- improving navigation in night-time and in conditions of diminished optical visibility, especially in littoral zones and harbours
- participating in search-and-rescue operations at sea
- possible linking with the weapons system

### ENGINE

Type:	2 x Caterpillar 3516C
Power:	2525 kW (3386 hp) at 1800 revs per minute
No. of cylinders / dimensions:	16 cylinders / diameter 170 mm x stroke 215 mm
Displacement:	78.08 litres
Configuration:	"V"
Mass:	9441 kg
General information:	four-stroke cycle, turbocharging, direct fuel injection
Direction of rotation:	counter-clockwise

## SEAMAN APPRENTICE KATJA TURUDIĆ, HELMSWOMAN

I have been with the Croatian Navy since 2015. I previously performed this duty on the *Andrija Mohorovičić* training vessel. I was surprised when I was notified about my transfer to the *Omiš*. I later felt happy and proud because this is a big acknowledgment. The biggest difference between the two vessels lies in the fact that the *Andrija Mohorovičić* has one steering mode, while

the *Omiš* has three steering modes and an autopilot mode, but other systems make operating it less complicated. We look forward to further testing with each new day and each new voyage.



THE NAVAL INFANTRY COMPANY OF THE CROATIAN NAVY FLOTILLA IS COMPRISED OF 158 MARINES OF THE CROATIAN ARMED FORCES. THEY ARE SET TO DEVELOP THEIR CAPABILITIES IN CONDUCTING AMPHIBIOUS OPERATIONS, QUICK REACTION TO THREATS, PROTECTING AND SECURING MILITARY INSTALLATIONS, ASSISTING CIVILIANS DURING DISASTERS AND FACILITATING HUMANITARIAN RELIEF EFFORTS.



# ESTABLISHMENT OF NAVAL INFANTRY COMPANY

As a part of Croatia's Navy Day celebrations, the former Barracks "Neretva" in Ploče near the city of Split were renamed Barracks "116<sup>th</sup> Brigade of the Croatian Armed Forces" on 14<sup>th</sup> September 2018. The renaming ceremony was followed by a parade and inspection of the Naval Infantry Company, a new active service formation, now permanently deployed to Ploče.

The Naval Infantry Company of the Croatian Navy Flotilla is comprised of 158 marines of the Croatian Armed Forces. They are set to develop their capabilities in conducting amphibious operations, quick reaction to threats, protecting and securing military installations, assisting civilians during disasters and facilitating humanitarian relief efforts. This represents a revival of the Croatian Navy's capabilities, which were

reduced during a previous downsizing of the Croatian Armed Forces.

President Kolinda Grabar-Kitarović, Deputy Prime Minister and the Minister of Defence Damir Krstičević, the Chief of the General Staff of the Croatian Armed Forces General Mirko Šundov and the Commander of the Croatian Navy Commodore Ivo Raffanelli presented the Company's marines with their new berets, a symbol of belonging to the new force. The President thanked all personnel of the Croatian Navy for their contribution to the nation's Homeland War and emphasized the importance of the Croatian Armed Forces' return to Ploče, a port town that would continue to play a vital role in the future. While congratulating the Croatian sailors on the anniversary of the establishment of the Croatian Navy,





Minister Krstičević extended his best wishes to the Croatian marines, members of the newly-established Naval Infantry Company. "By receiving these berets, you have become a part of the Croatian Navy and successors to Croatia's renowned maritime tradition – a tradition that we successfully preserved even in the toughest days of the Homeland War," Krstičević stated.

Mr Krstičević emphasized that the Naval Infantry Company and their Barracks "116<sup>th</sup> Brigade of the Croatian Armed Forces" represented a source of renewed capabilities for the Croatian Navy, which had managed to maintain its presence in the Adriatic with continuous investments in modernization and new equipment. Similarly, he pointed out that the Croatian Navy's level of operational capability was dependent upon the ser-



vice's expert staff as well as young officers enrolling in the Military Maritime Studies programme.

"The development of the Naval Infantry Company's capabilities and its deployment to Ploče provides an additional layer of security and assistance for the civil institutions in that area," said the Chief of the General Staff of the Croatian Armed Forces General Mirko Šundov. The Commander of the Croatian Navy Commodore Ivo Raffanelli recalled that the 53<sup>rd</sup> Naval Infantry Battalion had undertaken the Naval Infantry Company's role during the nation's Homeland War, when it participated in every operation in the south of Croatia and the front-lines around Zadar. He added that former personnel of the Battalion had also helped in the establishment and training of the Naval Infantry Company.



## NAVAL INFANTRY COMPANY'S MISSION AND ROLE

Naval infantry tasks can be carried out only by well-equipped, highly trained and extremely mobile units, capable of immediately responding to threats on Croatia's islands and coastline. The Naval Infantry Company will ensure the implementation of defence measures through regular training and exercises aimed at reaching and maintaining their required capabilities. Furthermore, they will protect military facilities and other forces in the field and train reserve forces so that their potential can be fully realised. They will also assist civilian institutions and populations in time of natural and man-made disasters, search-and-rescue operations and evacuation from coastlines, from the islands or at sea. Finally, they will also guard areas that are temporarily contaminated or have prohibited access. The Company is also tasked with protecting the Croatian Armed Forces' key infrastructure in coastal areas and hinterland, ports of embarkation and vessels in harbours away from their home bases at times of heightened security threat. Because the Company is autonomous and highly mobile, its personnel can respond to a threat quickly, appropriately and according to their geographical location until other components of Croatia's Homeland Security System arrive at the scene. In addition, they will engage in protecting main forces in defensive operations and in conducting limited-range rapid intervention missions at port facilities and on vessels.



**Commander of Naval Infantry Company  
Captain Branimir Todoric**

The Naval Infantry Company will undertake traditional military tasks. These include rapid intervention, seizing and securing beachheads for the arrival of additional forces. In addition, we shall also conduct non-combat roles whereby we assist the local community and civil institutions.

## REVITALISATION OF BARRACKS IN PLOČE

Following an analysis of all requirements, including the terrain, the Naval Infantry Company was deemed to be the best answer to potential security threats in the Dubrovnik-Neretva County area. Since the barracks in Ploče had been in the process of decommission, refurbishment was necessary for the barracks to be functional for the accommodation and training of the Company's full-time and reservist marines as well as for the storage of equipment. Located close to a harbour and a major maritime traffic hub, the Ploče barracks was the optimal solution to house the Croatian Armed Forces' southernmost unit.

## ESTABLISHMENT OF THE NAVAL INFANTRY COMPANY

The Company is staffed by personnel of the Croatian Armed Forces who replied to an internal job advert, met the requirements and successfully completed specialist naval infantry training that was conducted jointly by all three branches of the Croatian Armed Forces at the Croatian Naval Training Centre. The Naval Infantry Company is made up of three rifle platoons, a Support Platoon and a Reconnaissance-Diver Section, while its assigned reserve element can be attached to the Company for operations whenever it is required. Company strength will be 158 marines, with some personnel already reassigned to the Company from Croatian Army units, while others will be recruited in the future.

## Commander of Navy Flotilla Captain Darko Malečić

The establishment of the Naval Infantry Company rounds off the spectrum of capabilities needed to conduct maritime tasks, especially in amphibious operations. I am glad that the Company is a part of the Navy's Flotilla, as amphibious forces form an essential component of such operations. I am pleased that the company is made up of highly motivated young people. During their training we witnessed them develop their cohesion and *esprit de corps* - qualities without which one cannot be a marine.

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## TRAINING

The general objective of the training for the Naval Infantry Company is for potential marines to acquire the knowledge, capabilities and skills they will need to execute their tasks in all operating conditions.

The focus of the training is placed on naval and airborne landings, live-fire and situational exercises in various operating conditions, combat diving, endurance, combat communications, maritime skills and tactical deployment in adverse field conditions. Special attention is given to increasing the physical skills of the Company's trainees. The training of the Naval Infantry Company's founder

members lasted twelve weeks and was conducted in three phases. The first phase began with registration, followed by a refreshment of basic military skills. The second phase was dedicated to attaining the standards set for individual tasks. These included practical work in the complex conditions of sequential training, situational exercises and live-fire exercises with side and personal arms and/or weapon systems. Final evaluations of each recruit were conducted in the third phase.

The basic military skills repertoire embraces the Croatian Armed Forces' Code of

Conduct, psychological preparation, physical training, NBC defence, comms systems, handling mine and explosive ordnance, terrain navigation and first aid. The range of specialist skills also includes training at sea, basic maritime knowledge, infantry arms and firing practice, heliborne and naval landings as well as conducting situational exercises (SITEX).

Whilst at sea, recruits were trained to conduct amphibious operations with small rubber boats as well as to reconnoitre and seize enemy strongpoints in the beachhead area. So that prospective marines could undertake landing operations to the best of their abilities, they worked on improving their basic naval skills, such as navigation, maintaining and handling rubber boats. Training was conducted by the staff of the Intelligence

Centre and the Croatian Naval Training Centre. Training in small arms and firing tasks consisted of tactical and technical weapons study, skill-at-arms including weapons safety and maintenance in extreme conditions, stripping and assembling personal weapons as well as clearing malfunctions. During the live-firing phase, marine recruits were trained in the safe and effective use of missile systems, in addition to small-unit tactics and procedures up to company level, including various day and night-time combat operations.

Situational exercises were conducted under the expert guidance of the Intelligence Centre and Special Forces Command. The objective of the exercises was to put into practice individual learning into more complex tasks as well as to evaluate trainees' capabilities in planning, preparing and conducting tasks that included overcoming water obstacles by swimming, boat and helicopter. The purpose was to gain a realistic, accurate assessment of the recruits' strength, endurance and acquired skills. The first situational exercise was conducted at sea. Its objective was to test the recruits' ability to complete a tactical task at a position reached by boat and swimming. The exercise involved newly acquired skills of sea navigation, use of inflatable boats, combat swimming and tactical operations ashore.

The second exercise involved the combined use of amphibious transport docks, rubber boats, combat swimming, free-diving and further shore-based tactical operations. Looking forward, the Naval Infantry Company's training will focus on specialisms and the development of tactical operating procedures. The Company's marines are meanwhile continuing to improve and enhance their new skills and capabilities. In order to undertake their role, the Company will use the Navy's landing ships / minelayers and landing-assault ships that possess both the tactical and technical capabilities necessary for supporting naval infantry combat operations.



BALLROOM

FSB-TX PROJECT

# CROATIAN STUDENTS WIN USAF AIRCRAFT

AT THE BEGINNING OF THE YEAR, STUDENTS FROM ZAGREB'S FACULTY OF MECHANICAL ENGINEERING AND NAVAL ARCHITECTURE VISITED SAN DIEGO, WHERE THEY HAD AN OPPORTUNITY TO PRESENT THEIR FSB-TX PROJECT FOR A FIGHTER TRAINING AIRCRAFT AT THE AIAA SCITECH FORUM. THEY WERE INVITED TO THE EVENT AFTER WINNING FIRST PLACE IN THE GRADUATE TEAM CATEGORY AT THE AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS' STUDENT DESIGN COMPETITION FOR 2017/2018. THE FSB-TX PROJECT IS AN ADVANCED TRAINING AIRCRAFT FOR F-22 AND F-35 FIGHTER PILOTS AND THE COMPETITION MIRRORED AN ACTUAL COMPETITIVE TENDER UNDERTAKEN IN THE UNITED STATES...



At the beginning of the year, students from Zagreb's Faculty of Mechanical Engineering and Naval Architecture visited San Diego, where they had an opportunity to present their FSB-TX Project for a fighter training aircraft at the AIAA SciTech Forum. They were invited to the event after winning first place in the Graduate Team category at the American Institute of Aeronautics and Astronautics' student design competition for 2017/2018. The FSB-TX Project is an advanced training aircraft for F-22 and F-35 fighter pilots and the competition mirrored an actual competitive tender undertaken in the United States. Along with the invitation to the AIAA SciTech Forum, the students scooped a \$1,250US prize. That aside, the opportunity to demonstrate their project in the United States and see real projects in their field of study at first hand far outweighed the financial reward. They admitted that the competition was tough – nine teams from seven countries had entered rival designs. The team from Belgium's University of Liège came in second, while the Iranians of the Sharif University of Technology took third place. The Croatian team was made up of students from Zagreb's Faculty of Mechanical Engineering and Naval Architecture, the first in the country's history to enter

this competition as part of their Aircraft Design course. This year's generation of graduates are already following in their footsteps and preparing another project for the competition. The students have demonstrated outstanding knowledge and continue to motivate future generations to prove that Croatia has an academic base which continues to produce world-renowned aeronautical engineers, despite not having an aircraft industry. The winning project was the result of eight months' intensive work by a team comprised of Fran Delić, Tibor Gašparac, Antonio Golub, Antonio Jurišić, Antonio Klasnić, Ivan Kovačević, Matea Lišnić, Hrvoje Magdić, Kristijan Ruklić and Vjekoslav Sraga. The team were supervised and mentored by Associate Professor at the Department of Aeronautical Engineering Milan Vrdoljak and Assistant Professor at the Department of Naval Architecture and Marine Engineering Pero Prebeg.

### KNOWLEDGE - THE GREATEST REWARD

The mentors were pleased with the results as the students had shown that they could apply the knowledge acquired during their studies. "Aircraft Design is a course taught in the final year of the Aeronautical Engineering



Text by Petra Kostanjšak  
Photo by Tomislav Brandt, private album

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# DESIGN COMPETITION



graduate programme. During the course, students must design an aircraft for a given purpose. We often make use of the AIAA's competitions because they represent current developments that overlap with the tasks we set for our students. Last year, the AIAA's competition brief was to design a trainer aircraft that would replace the existing fleet in the United States Armed Forces and we provided our students with the opportunity to submit their project," Professor Vrdoljak explains. He says that it was agreed all ten of the students on the course would form one team, since the scope of work for an AIAA project is far bigger than could be managed individually within the course programme.

"The course was challenging. There were ups and downs, naturally, but the experience of working in a team is something that they as engineers will certainly need, no matter where they find a job in the future. This course is the crowning of their studies in Aeronautical Engineering because all the knowledge acquired elsewhere comes together here," Professor Milan Vrdoljak says. When asked how the students were rewarded for their winning project, he smiles and says wisely: "We rewarded them with knowledge!"



### PLANS FOR THE FUTURE

During the course of their studies, most of our interviewees have had the chance to make contacts and see what it is like working in the aerospace industry. They explain that in Croatia, a large number of aeronautical engineers work in mechanical engineering companies because they remain tied to their homeland. If they wish to work in the field of aeronautical engineering, they have to look for work beyond Croatia's borders. They stress that the AIAA's competition represents what their study programme is intended for and gives weight to it: "Unfortunately, no aerospace development industry exists in Croatia. In spite of that, we have shown that we have a good Faculty and capable experts. We want to use this opportunity to thank everyone who recognized our potential and the potential of this project."



### AIRCRAFT SPECIFICATIONS

Maximum speed at 10,973 m	0.95 M
Cruising speed at 10,973 m	0.7 M
Maximum range at 10,058 m	2,800 km
Maximum endurance at 10,973 m	4.4 h
Maximum rate of climb	130 m/s
Service ceiling	12,192 m
Runway take-off length	408.69 m
Runway landing length	877.53 m
Sustained g at 4,572 m MSL	8 G
Payload	226.8 kg



### IMPRESSIONS FROM SAN DIEGO

BY IVAN KOVAČEVIĆ, MEMBER OF THE FACULTY OF MECHANICAL ENGINEERING AND NAVAL ARCHITECTURE'S WINNING TEAM

We presented our project to the Aircraft Design Technical Committee. This is the committee inside the AIAA that invited the tenders and is in charge of grading submitted projects. We were well received and we were all extremely proud of our project and our presentation. We heard various interesting lectures at the conference. One of the lectures was by our colleague Gregor Cvijetić; he and our team were the only representatives of our Faculty and the Republic of Croatia there.

Around the conference, we also visited most of the sights in San Diego. For us, the most interesting place was the San Diego Air & Space Museum, in front of which a Lockheed A-12 Blackbird is displayed. Among others, a replica of the *Spirit of St. Louis*, the aircraft used by Charles Lindbergh for the first transatlantic flight, is on display at the museum. Another interesting place was the USS *Midway* (CV-41), which has been transformed into a museum that depicts life on board an aircraft carrier. Likewise, various aircraft which previously operated from that aircraft carrier are on display there. We stood next to such aircraft as the F/A-18 Super Hornet, the F-14 Tomcat, the F9F Panther, the FJ-3 Fury, the A-5 Vigilante and the A-6 Intruder.

### AIRCRAFT DESIGN

Some members of this winning team have already graduated, while others are finishing their studies. We spoke with some members of the team before they travelled to the USA. Fran Delić opens the story: "In graduate school, there is a two-semester course called Aircraft Design. In the course, we choose an assignment and a mission, which is followed by the design of an aircraft that is capable of fulfilling that mission. We decided to apply to the competition for a new trainer aircraft for pilots of the F-22 and F-35 fighter. The competition mirrored an actual tender in the United States Armed Forces from the same year. In effect, we designed a new generation of aircraft that the United States Armed Forces will use for pilot training." In other words, the AIAA invited student tenders for aircraft that would replace the T-38C Talon as the advanced pilot trainer aircraft in the United States Armed Forces.

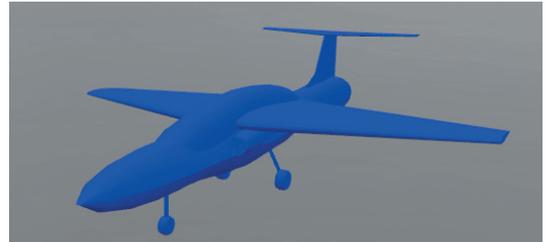
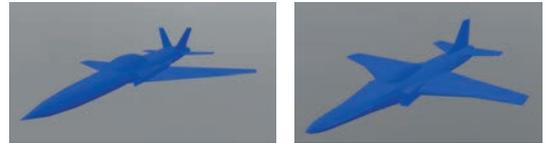
Ivan Kovačević, who graduated last year, explained how an aircraft is designed. "We look for good and bad qualities in similar aircraft and grade them in relation to our objectives and the purpose of the aircraft. Then, we try to design an aircraft that is as functional and as close to

## CROATIAN STUDENTS PRESENT THEIR PROJECT AT WORLD'S LARGEST FAIR

The AIAA SciTech Forum is the biggest annual conference of its kind, attended by 3,500 representatives of the aerospace industry, academia and military sector. The students say that the trip to San Diego gave them an opportunity not only to present their work but also to see and hear about the latest developments as well as meet other people from their chosen profession. As a result, the conference could open up some exciting new possibilities for them.



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our objectives as possible," Kovačević tells us.

Antonio Jurišić, a senior student in the Aeronautical Engineering graduate programme, explains how they were able to meet the tender requirements for the aircraft (set height, simulated air combat, fuel transference, etc.), as well as some requirements they identified themselves and on the basis of which they designed the aircraft. "The project has ten elements. Each person took up one element, but we helped each other out because the elements are interconnected and build on one another," Antonio Jurišić stresses. Hrvoje Magdić points out that they regularly sent progress reports to their professors during both semesters, while the AIAA received the final report – a summary of their months of effort.

Senior student Antonio Klasnić told us that the students had deliberately chosen a more difficult path, one that had required more work than intended by the course design, when they had decided to submit their project for the tender. In the end, that decision turned out to be a good one. Their near hundred-page long winning project can be viewed on the AIAA's website. As far as team work is concerned, there are some good and bad sides, according to the students. They have known each other since their

freshman year, so they understand how each of them functions. "The worst part was harmonizing all the elements, attending meetings regularly and co-ordinating this project alongside our other commitments. Of course, there were some minor disagreements. In such cases, we would consult our mentors or reference works, reach compromises and, if necessary, vote on certain issues. We think we worked well as a team and the end result proves it," the students say. They thank their mentors, with whom they co-operated on the project well and from whom they have learned a lot.

The team received the AIAA's award at a formal session of the Faculty of Mechanical Engineering and Naval Architecture, which supported them throughout the project and financed their trip to San Diego. "Whatever we asked for, we got it. It is commendable that our Faculty gives us an opportunity to realize our projects," Ivan Kovačević concluded. In December, Kovačević presented the winning project at the Croatian Ministry of Defence, where the team were received by Deputy Prime Minister and the Minister of Defence Damir Krstičević. Mr Krstičević and his associates congratulated the team on their huge success.

# AIR SURVEILLANCE AND NAVIGATION BATTALION – GUARDIANS OF CROATIAN SKIES

THE AIR SURVEILLANCE AND NAVIGATION BATTALION'S TASK IS TO CONTINUOUSLY MONITOR THE REPUBLIC OF CROATIA'S AIRSPACE AND ACCESS POINTS INTO ITS TERRITORY, PROVIDE THE CROATIAN AIR FORCE WITH RADAR SUPPORT DURING COMBAT OPERATIONS AND TO MAINTAIN THE COMBAT EQUIPMENT IN THE AIR NAVIGATION AND OPERATION SYSTEM. THE AIR SURVEILLANCE AND NAVIGATION BATTALION SUPPORTS NOT ONLY THE MILITARY BUT ALSO CIVIL STRUCTURES AS WELL...

It would not be inaccurate to state that Croatian Armed Forces personnel are responsible for everything happening in Croatian skies; no aircraft can enter Croatian airspace without their knowledge or consent. Should an incident occur, it is handled quickly by the Air Surveillance and Navigation Battalion, a component of the Croatian Air Force.

The Battalion's personnel are an important factor in the Croatian Armed Forces' air surveillance and navigation system, a sub-system of the integrated air defence system, with which Croatian airspace is continuously monitored. They maintain and protect the integrity of Croatia's airspace and contribute to the air defence of NATO territory. They are responsible for the timely distribution of data about the state of the airspace (radar imaging data) to all components within the system. In order to witness first-hand what it takes for the Republic

of Croatia's airspace to be completely monitored at any given time, *CROMIL's* team visited the Air Surveillance and Navigation Battalion. Its Commander Colonel Dalibor Benko guided us through its organizational units, including those normally hidden from the public eye due to the sensitive nature of their job.

"Our unit's primary task is to monitor the airspace above Croatia and the access points into its territory as well as to provide the Croatian Air Force with radar support in all of its combat operations. Upon joining NATO in 2009, the Republic of Croatia entered the NATO Integrated Air and Missile Defence System (NATINAMDS). The Air Surveillance and Navigation Battalion forms a part of this system and contributes to the Alliance's air defence in that way. The Battalion's other important task is to maintain the operational capability of the FPS-117 radar system at the required level," Colonel Benko explains.

## SUPPORT TO CIVILIAN AND MILITARY STRUCTURES

The Air Surveillance and Navigation Battalion uses American-made FPS-117 radars to support the country's military and civil structures. Three of its radars are connected to a system belonging to Croatia Control, which uses the data acquired from them 24/7. The Commander of the Air Surveillance and Navigation Battalion emphasizes that his organization monitors Croatian airspace with the aim of fully protecting its integrity, while Croatia Control is responsible for managing air traffic.

"The difference is huge. To put it simply, we are in charge of security, while Croatia Control is in charge of traffic," Colonel Benko says. The Air Surveillance and Navigation Battalion also co-operates with the Ministry of Foreign and European Affairs, from where they receive flight authorisations and diplomatic clearances for flights of foreign state aircraft. The members of the Air Surveillance and Navigation Battalion use these documents to check whether foreign aircraft entering the Republic of Croatia's airspace possess the required clearance. In addition, the Air Surveillance and Navigation Battalion provides radar support for the Croatian Coast Guard and the Firefighting Operations Command. The Battalion's Navigation Officer has the important task of transferring commands from Firefighting Operations Command to the pilot executing a firefighting task with an aircraft, directing the pilot to a blaze and providing them with essential information for task execution. Likewise, the Navigation Officer directs aircraft to locations in the Adriatic Sea where incidents have been reported.

The Battalion has nine organizational units: Headquarters Command, five radar posts (at Sljeme, Borinci, Papuk, Učka and Pelješac), two operations commands (Airspace Surveillance Command in Podvornica and Sector Operations Command in Split) and the Aeronautical Technical Maintenance and Ordnance Company, a support element that maintains radar systems and sub-systems.



"The radar posts continuously monitor the airspace within their roughly 450-kilometre range. Data and images from each radar are distributed to the operations command, where an image of the situation in the airspace is created. That image is distributed to users in the Republic of Croatia and elsewhere. Since Croatia is a NATO member, images are distributed to the Deployable Air Command and Control Centre in Italy, our superior Combined Air Operations Centre in Spain and the Allied Air Command in Ramstein, Germany. We also exchange images with operations commands in the neighbouring countries of Hungary, Italy and Slovenia. We provide them with data while maintaining absolute control over our sovereign airspace," our guide says. Radar images are also sent to all branches of the Croatian Armed Forces, with the Croatian Air Force making most use of them. In order to see how a complete radar image is created, how the airspace is monitored on a daily basis and how co-operation with NATO happens, we visited the Airspace Surveillance Command in Podvornica, the largest organizational unit within the Air Surveillance and Navigation Battalion. Although the location appears unassuming at first, the scene that awaited us when we walked inside was impressive. A network of over 100 rooms is spread out over 1,800 square metres. One might call it the heart of the unit, since the country's entire air space is monitored from there.

"As far as the scope of work is concerned, the most complicated and important tasks are undertaken here. These tasks include the continuous monitoring of the Republic of Croatia's airspace and the provision of radar support to air forces. Data from radar posts are sent to the Command and generated into a single radar image on the indicator. The Command's staff monitor the entire airspace and create images of it. They identify objects (radar data) and observe the airspace in case they should spot an unidentified object which has not been reported or announced in the flight plan.





At the same time, we contribute to the defence of NATO by exchanging data with NATO's commands and by being a part of the NATO Integrated Air Defence System," says the Commander of the Airspace Surveillance Command Lieutenant Colonel Teofil Tolić.

Other tasks should be mentioned, such as the provision of radar support to the Air Force's missions (Air Policing), combat operations of fighter aircraft and the provision of navigation assistance to all aircraft in the Republic of Croatia's airspace, if necessary. The standing combat air patrol, stationed in Pleso, also forms part of the Air Policing mission. Lieutenant Colonel Tolić explained the mission to us: "Along with the standing combat air patrol, our Command monitors and protects the airspace in accordance with NATO procedure. If the airspace is infiltrated by an aircraft which has not been announced to Croatia Control or has not made radio contact, we initiate a procedure known as Alpha Scramble: the combat air patrol is scrambled to intercept the aircraft and visually identify it."



## ALPHA SCRAMBLE PROCEDURE

"The Alpha Scramble is a peacetime task. Certain steps have to be taken when dealing with an aircraft experiencing communication loss (Comloss) so as to confirm that it does not pose a threat. The combat air patrol's task is to reach the aircraft as fast as possible, determine its identity and make contact with it, in which they usually succeed. Once the aircraft leaves our airspace, it is taken over by a neighbouring country's air traffic control or combat air patrol. A Comloss situation occurs at least once a month," Colonel Benko adds.

"If the combat air patrol (comprising a pair of MiG-21 aircraft) is scrambled, one of the pilots makes contact with our Navigation Officer, whose task is to guide them to the most advantageous position in relation to the target. The pilots visually identify the aircraft and send a report to the Navigation Officer. These situations often occur in the summer. The fighter aircraft have 15 minutes to be ready for take-off once the alarm goes.



Training Centre and within their units. They are also partially self-taught. Over the past few years, the radars have proven themselves to be highly precise; a testament to their quality, but also to the quality of the operating personnel in maintaining such sophisticated equipment.

A radar post may be assigned with additional surveillance of a part of the airspace in which a potentially dangerous unidentified aircraft appears. Its primary radar is important for the surveillance of the airspace because it provides data about all targets, while its secondary radar follows air traffic and forwards data that it receives from aircraft. It is important to note that monitoring the airspace means considering the bigger picture – unidentified objects are important and require action because they may pose a threat. In such situations, radar posts play an important role in every surveillance zone. So long as a target is within the Republic of Croatia's airspace, the personnel of each radar post have to monitor it together with the Command in Podvornica," Colonel Benko says about the radar posts' importance. Second Lieutenant Nino Marasović, one of the unit's officers, adds: "FPS-117 is a state-of-the-art radar system and our everyday job is to maintain it. The radar automatically distributes data, while our task is to monitor its work and eliminate malfunctions.

"Major malfunctions are remedied by the Aeronautical Technical Maintenance and Ordnance Company, a branch within the Air Surveillance and Navigation Battalion that is responsible for intermediate level repairs and maintenance. Faulty components that cannot be repaired in Croatia are sent to Lockheed Martin in the USA, where they undergo depot-level maintenance, usually a full overhaul. The Company maintains communication and information systems, while some of its members are assigned to intervention teams that work round the clock. But, Colonel Benko assures us that the breakdown of a single radar is no cause for consternation – because of each radar's wide range, their images overlap, so that the Republic of Croatia's airspace is always fully monitored.

Intercepting an aircraft is an exhausting and demanding task both for our employees and our pilots. Incidents in our airspace have had no dire consequences so far – either a pilot has not answered a call or a radio component has malfunctioned. Hijackings or more serious incidents have not occurred."

After a tour of the facility from where the Republic of Croatia's entire airspace is monitored, the Commander of the Air Surveillance and Navigation Battalion takes us to the highest peak above the capital Zagreb – Radar Post Sljeme. The area is fenced off with barbed wire and recognizable by its dome, inside which a radar with a rotating antenna is located.

"In 2000, modern and sophisticated three-dimensional FPS-117 radars and American-made equipment with cutting-edge features were delivered to Croatia. The first radar was installed on Sljeme and other radars were later installed in then newly-built radar posts. The employees of Radar Post Sljeme have been trained at the manufacturer's base in the USA, at the U.S. Air Force





# MOST INTENSE TRAINING FOR COMBAT

AT BARRACKS "JOSIP JOVIĆ" IN UDBINA, THE LEADERSHIP DEVELOPMENT CENTRE "MARKO BABIĆ" IS BEING ESTABLISHED ON THE BASIS OF THE EXPERIENCE FROM CROATIA'S HOMELAND WAR...

Beginning this autumn, the Croatian Armed Forces will once again have a centre in which highly motivated, trained and competent leaders will be developed on the basis of lessons learned from the nation's Homeland War of 1991-95 and on the model of the Guards Brigades' former Specialist NCO Training Centre "Damir Tomljanović Gavran". These new leaders will pass their newly acquired knowledge and skills onto their units, acting as an example to their subordinates and as confidants to their superiors.

The new Leadership Development Centre "Marko Babić" will be based at Barracks "Josip Jović" in Udbina. The location was chosen due to its central position in the Republic of Croatia, good road links and the proximity of other training facilities - the "Eugen Kvaternik" Training Range near Slunj, the "Crvena zemlja" (Red Land) Training Range near Knin and Barracks "Lieutenant Colonel Mirko Vukušić" in Zemunik. "The location provides the necessary infrastructure and amenities for the accommodation, life and work of the Centre's staff and trainees," explains Croatian Army Commander Major General Siniša Jurković.



**Croatian Army Commander  
Major General  
Siniša Jurković**

Much of the training will be conducted at these and other locations, on training areas, drilling grounds and shooting ranges the infrastructure of which can fully support the training objectives. The main reason for establishing the Leadership Development Centre "Marko Babić" is the reinforcement and development of the capabilities of NCOs and officers in the Croatian Armed Forces. The training is intended for NCOs currently occupying various posts as well as for junior officers commanding platoons. "The Croatian Armed Forces have developed Military Leadership Training, which is conducted with enlisted soldiers in order to prepare them for their first NCO duty. Our wish is that the Leadership Development Centre will become the next step where enlisted soldiers and other Croatian Armed Forces personnel in leadership roles at the lower tactical level will hone their skills in leading and commanding units. At the end of the course, they will be able to pass their newly acquired expertise onto their colleagues," says General Jurković. He adds that the training will lay emphasis on developing the skills and knowledge required of a leader at any level as well as qualities such as critical thinking, problem solving, adaptability, creativity, resistance, ingenuity and flexibility. "Special emphasis will be placed on the functioning of a leader in difficult conditions and stressful situations. Training will be conducted 24/7 in all weather conditions," General Jurković announces, listing some of the planned training elements - navigation, skill-at-arms in all environments, tactical tasks, physical



Text by Martina Butorac,  
Photo by Archive of the Croatian Military Press  
and Publications Department

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# NEW CENTRE LEADERSHIP

fitness, military psychology, adult learning, teaching techniques, etc.

The training courses will be five weeks long and consist of three phases. They are preceded by a candidate selection, which is primarily administrative in nature. The selection process is followed by an entrance exam and then the course begins. However, it should be emphasised that the course retains its selective character throughout. The aim is for only the best students to finish the training at the Centre. The first and second phases will include elements such as leadership, skill-at-arms, protection and first aid, tactical training, transfer of forces, mines and explosive ordnance, survival, escape and evasion, resistance to interrogation and extraction, self-defence and physical training. The third phase will focus on administrative tasks, care of weapons, equipment, personal kit and methods. The climax of phase three will be a 72-hour tactical exercise, during which infantry skills tests will be conducted, as was formerly the custom at the Guards Brigades' Specialist NCO Training Centre "Damir Tomljanović Gavran". At the final ceremony, certificates marking the successful completion of the course will be presented to graduates. The initial selection of potential candidates is currently underway. Once the process is completed, 60 Croatian Armed Forces personnel will begin with the pilot course. Thereafter three rotations (three courses a year) are planned.

The Centre will not only include command, planning and support services but also an instructors' branch. This



branch will include four training teams, each of which will consist of two senior instructors and two supernumerary instructors who will conduct the course. "The source for the selection of instructors is the Croatian Army. We have chosen the best instructors from all units and training facilities of the Croatian Army," General Jurković says. The first rotation will include students from the Croatian Army only, although there is a possibility that soldiers from the armed forces of Croatia's partner countries could become involved with training in Udubina in the future.

## GUARDS'N CO SPECIALIST TRAINING CENTRE AS MODEL

The future Leadership Development Centre is being developed on the initiative of Croatia's Deputy Prime Minister and the Minister of Defence Damir Krstičević. It is modelled on its predecessor, the Guards Brigades' Specialist NCO Training Centre, which was established at the instigation of Lieutenant-General Ante Gotovina at Šepurine near Zadar in April 1994. The intensive and demanding training there was conducted under the motto "Sweat spares blood." About 80 recruits gathered at the first training, many already battle-hardened veterans of the country's Homeland War. The Centre's first commander at Šepurine was Lieutenant-Colonel Werner Ilić of the 4<sup>th</sup> Guards Brigade. The Centre ran until 2000, when it ceased operations.

## HERO OF THE SIEGE OF VUKOVAR

While the Guards Brigades' Specialist NCO Training Centre was named after a legendary soldier of the Croatian Army's former 1<sup>st</sup> Guards Brigade *Tigrovi* (Tigers) Damir Tomljanović Gavran, the future Centre for Leadership Development will carry the name of another hero of the Homeland War – the late Colonel Marko Babić, Deputy Commander of the 3<sup>rd</sup> Battalion, 204<sup>th</sup> Vukovar Brigade.



# EXCEPTIONAL SPORTS ACHIEVEMENTS ACROSS SEVERAL DISCIPLINES

It is absolutely unbelievable how easily these two brothers win medals of the highest class even when switching their competitive disciplines, something nobody else in the history of rowing has achieved. We are of course talking about the Sinković brothers, older brother Valent and younger brother Martin, current Olympic champions in the men's double sculls. At the end of September 2018, they made history by winning their fifth gold medal, this time in the men's coxless pairs. We spoke with the Sinković brothers about their fantastic sporting achievements as well as the Croatian Armed Forces' largest military exercise *Velebit 18 - Joint Force*, in which they participated as members of the contract reserve at the end of October last year. To begin with, they commented on their world-class results and told us why they had decided to switch from two oars to one after the Summer Olympics in Rio de Janeiro.

"It was not saturation, but rather the prospect of a new challenge that made us switch to a new discipline. We had already won everything there was to win in the men's double sculls and we wanted to achieve even more, if possible.

We decided to give it a try in a new discipline and win all the medals at that, too. It was a feat nobody had attempted before and we wanted to strive for even more," Martin explains. His brother Valent adds that switching to a new discipline had not been "plain sailing", although the results they have achieved in it so far tell their own story.

"It was a challenge switching to a new discipline. Everything was different. It was difficult for us to find some of the basic elements that we had had in our old discipline, such as relaxation or balancing the boat. We struggled for a really long time. There were ups and downs but we are pleased with our latest results. The World Championship gold medal has provided the wind beneath our wings for the next Summer Olympic Games in Tokyo. That is the most important competition, after all," reveals the older Sinković brother.

Martin adds that they felt like complete beginners at rowing after they had switched disciplines. But they did not have to wait too long for success, coming in second at their first World Cup competition. Winners' medals followed a short time later.



Text by Martina Butorac  
Photo by Tomislav Brandt

CROATIAN MILITARY MAGAZINE

WE SPOKE WITH OLYMPIC AND FIVE-TIME WORLD CHAMPIONS, BROTHERS VALENT AND MARTIN SINKOVIĆ ABOUT THE EXCEPTIONAL RESULTS THEY HAVE ACHIEVED ACROSS THREE DISCIPLINES AND FOR WHICH THEIR NAMES ARE FOREVER INSCRIBED INTO THE HISTORY OF ROWING. THEY ALSO DESCRIBED THEIR EXPERIENCE AT THE MILITARY EXERCISE VELEBIT 18 - JOINT FORCE, WHERE THEY PARTICIPATED AS MEMBERS OF THE CONTRACT RESERVE...

As Valent explains, there have been cases when rowers achieved good results after switching disciplines. However, the older Sinković admits, "What we have done, switching from two oars to one, is a special feat." Considering the results they have achieved and the ease with which they handle new challenges, it would appear that Valent and Martin Sinković would be just as successful in any other sport. So we ask them why they chose rowing and the answer is a surprising one. Their mother is to blame - she enrolled them into rowing by accident. "Our older brother had seen a kayak on television and asked our mother to enrol him into kayaking. However, Mum went to a rowing club instead and that's how we ended up there. It was a complete accident," Valent laughs. For years now, the Sinković brothers have been world-class athletes with top-level results and countless medals. They point out that they have no problems covering the costs of competitions, training or equipment. However, the position of athletes in so-called minority sports is not an ideal one. "All of our expenses are paid for. However, those who have not yet reached the top are struggling. We know



that we will not be able to make enough money in this sport to support ourselves for the rest of our lives and that we will have to take up a job once we finish our careers. That is why finishing my studies is a priority. I will see which doors will open to me later on and where I can contribute the most once my career is over," Valent says. Martin, a student at the Faculty of Kinesiology in Zagreb agrees, adding: "Our primary goal is to continue rowing for a long time." Coming up for them next are the Olympic qualifiers, at which the brothers feel they have every chance of success.

"The Olympic Games are still the most important competition for us. We have to make the top eleven in the qualifiers, but we want to enter the Olympic season in the best possible way, by becoming world champions again and thus favourites for the gold medal," the older Sinković brother says. At the next Summer Olympics in Tokyo, they intend to win a gold medal, for they prize the Olympic Gold above all others.

Alongside all their other commitments as top athletes, the Sinković brothers are also members of the contract reserve and gladly accept each call-up from the Croatian Armed Forces. At the "Josip Jović" Barracks in Udbina, they participated in the military exercise *Velebit 18 - Joint Force*.

"It was fun to see what a military exercise looks like from the inside. We visited the Exercise Command in Udbina. It was interesting to see how all the branches participating in the exercise are co-ordinated. As much as we have helped the military, the military has also helped us. Soldiers spoke to us about their work and training. In fact, the mindset of a soldier is quite similar to that of an athlete," Martin believes.

Valent agrees and adds that spending time with active duty officers in the field and listening to their stories was a good experience: "We are happy with everything that the Croatian Armed Forces have given us and we feel like we owe something to them. That is why we accept every call, especially where sporting competitions are concerned."

The younger Sinković brother stresses that being a member of the contract reserve and wearing the uniform of the Croatian Armed Forces is a big honour, while the contract reserve programme provides athletes with significant financial stability.

Like all members of the contract reserve, the Sinković brothers went through training at the Basic Military Training Centre in Požega. Their two-week stay there was an interesting life experience.

"I held a handgun and a rifle and shot with them for the first time in my life. The people there were forthcoming and made sure that we had some time left for rowing training so that we could stay in shape. However, they did not go easy on us in some other respects. They cut our hair off and on one occasion had our beds turned upside down after we had failed to make them properly. They certainly did not go easy on us there," Martin laughs in conclusion.

## CROATIAN ARMED FORCES' JAZZ ORCHESTRA

MILITARY MUSIC FORMS ONE OF THE STRONGEST LINKS BETWEEN THE ARMED FORCES AND CIVILIANS, AS DEMONSTRATED BY THE CROATIAN ARMED FORCES' JAZZ ORCHESTRA.

ITS PERFORMANCES ARE TRUE MUSIC SPECTACLES THAT BRING EVEN THE MOST DEMANDING AUDIENCES TO THEIR FEET. AFTER FIVE YEARS AND NUMEROUS CONCERTS, IT HAS BECOME A RECOGNIZABLE BRAND. THE FIFTH ANNIVERSARY OF ITS FORMATION WAS MARKED WITH THE RELEASE OF *LISINSKI UŽIVO 2017*, AN ALBUM WITH TEN SONGS IN BOTH CROATIAN AND ENGLISH, FEATURING PROMINENT NAMES ON THE CROATIAN MUSIC SCENE...



# SYNERGY OF

Looking back, music has always had an important place in the lives of soldiers on the battlefield, helping them cope with the stresses and strains of war. Although military music is most often associated with WWI and WWII, the truth of the matter is that music was employed in warfare for thousands of years before that. Instruments and tunes may have changed, but the purpose of military music has remained the same – to reinforce soldiers' morale in combat. In times of peace, military music forms one of the strongest links between the armed forces and civilians, as demonstrated by the Croatian Armed Forces' Jazz Orchestra. It has fans all over Croatia and tickets for its concerts are in popular demand. Its performances are true music spectacles that bring even the most demanding audiences to their feet. After five years and numerous concerts, it has become a recognizable brand and one of the best ambassadors for the Croatian Armed Forces. Its musicians rehearse at the House of the Croatian Armed Forces in Zagreb, where their conductor Major Davor Dropuljić told us a bit more about the orchestra itself and its first album, released at the beginning of the year.



"Music is an important feature of the Croatian Armed Forces. The Croatian Armed Forces Band, which includes the Jazz Orchestra, represents the cultural side of our military to employees in the defence system and to the wider civilian population. We present our work to everybody in the best way that we can," Major Dropuljić said. And he was pleased that people all over Croatia had recognized their efforts.

The Jazz Orchestra is a classical big swing band: five saxophones, a flute, four trombones, four trumpets and a rhythm section. Major Dropuljić proudly stated that all members of the orchestra, but for one associate, were serving members of the Croatian Armed Forces. He explained that they were set to maintain the orchestra's strength for ten more years with their current line-up. Nevertheless, they are open to welcoming new talent; only last year, a young second lieutenant joined the orchestra.

In its five years of existence, the orchestra has worked with many distinguished performers on the Croatian music scene. Its numerous collaborations speak volumes about the size of its repertoire: "At times, we feel



Of the many performances that took place last year, the one that members of the orchestra recall most fondly is their anniversary concert at the Vatroslav Lisinski Concert Hall under the title *Pet godina zajedno (Five Years Together)*. "We always look forward to performing at the Lisinski, Croatia's temple of music. Each of our concerts there has been a benefit performance, the proceeds going to Europa Donna Croatia in 2017 and the Anna Rukavina Foundation in 2018. Whenever we charge admission, we do it for a charitable cause," Major Dropuljić stressed. These musical events are supported by well-known and respected Croatian soloists such as Renata Sabljak, Bruna Oberan, Adalbert Turner-Juci and Matija Cvek as well as the Croatian Navy's internationally famous Vocal Ensemble *Sveti Juraj (Saint George)*.

As far as future plans are concerned, many activities and guest appearances all over Croatia lie ahead for the orchestra. In some towns, the orchestra's concerts have become a tradition; they are asked to return every year and are happy to accept the invitations.

## GOOD MUSIC, PERFORMERS' ENERGY AND EXCELLENT VOCALS

that the term 'jazz orchestra' may sound a bit exclusive and doesn't adequately describe what we play and give to the audience. In large part, we play international and Croatian popular music, while classical jazz makes up a relatively small part of our repertoire," Major Dropuljić emphasized. Regardless of the name, each concert is a true synergy of good music, the performers' energy and excellent vocals, leaving audiences exiting concert venues happy and satisfied.

The album entitled *Lisinski uživo 2017 (Live at the Lisinski 2017)* was released in January and features covers of well-known Croatian songs including rock band Parni valjak's *Ljubavna (Love Song)* and singers Ivo Robić's cult hit *Samo jednom se ljubi (You Only Love Once)*. "Our album contains ten songs – some in Croatian, some in English. It's the playlist from our concert at the Vatroslav Lisinski Concert Hall in 2017, which featured our guests and friends Nina Kraljić, Marko Tolja, Matija Dedić, Matija Cvek and other famous Croatian stars," Major Dropuljić explained and added that all fans of good music could now enjoy these performances in the privacy of their own homes, as well.

**The Jazz Orchestra is a component of the Croatian Armed Forces Band, along with the Armed Forces' Symphony Orchestra, the Croatian Navy Band and the Croatian Navy's Vocal Ensemble Sveti Juraj. Its task is to provide musical support for national and military diplomatic events, undertake performances of marching music and deliver concerts.**





THE MIG-21 JET FIGHTER FLOWN BY CROATIA'S HOMELAND WAR HERO RUDOLF PEREŠIN ON HIS FLIGHT FROM BIHAĆ TO KLAGENFURT WAS RESTORED TO CROATIA IN MAY 2019.

PREVIOUSLY, THE AIRCRAFT HAD BEEN ON DISPLAY AT THE AIRCRAFT MUSEUM IN ZELTWEG, AUSTRIA FOR 28 YEARS...



# PEREŠIN'S MIG-21 RETURNS TO CROATIA AFTER 28 YEARS

When Croatian pilot Rudolf Perešin landed a MiG-21 aircraft in Klagenfurt 28 years ago, the whole world saw his image and heard his words: "I am a Croat. I cannot and will not fire upon my Croatia!" Four days later, Perešin returned to Croatia and joined the ranks of the Croatian Air Force.

"I did what I felt was the duty of every Croatian citizen. Every person who perceives Croatia as their homeland should contribute to the fight for its freedom. True heroes are on battle lines in Vukovar and elsewhere. Many of their names will remain unknown," said Perešin in his first public appearance in front of Croatian journalists. Aware of enemy plans to launch an armed aggression against Croatia, Perešin had no doubts about leaving the Yugoslav People's Army. Like many Croats at the time, he was constantly under watch and was therefore aware of the risk he was taking. Nevertheless, he planned out the flight in detail and his undertaking left a permanent mark in the newer Croatian history.

On the fateful 25<sup>th</sup> October 1991, Perešin was tasked with monitoring the retreat of the Yugoslav People's Army from Slovenia. That had been his first flight in months, after flight bans had previously been imposed on all Croats stationed at the Željava Air Base in Bihać, Bosnia and Herzegovina. Perešin took off from Bihać and flew over Croatia's capital Zagreb and Slovenia's capital Ljubljana, eventually reaching the Slovenian coastal



**Pilot Rudolf Perešin made history with his heroic flight on the MiG-21 jet fighter, while his final flight in the Croatian Armed Forces' victorious Operation Flash will be remembered forever.**



city of Koper. On his way back, he flew over Ljubljana, descended to ground level and entered the Republic of Croatia's airspace in the vicinity of Bleiburg. Afterwards, he put down the landing gear and set out to Klagenfurt Airport, where he successfully landed the MiG-21.

His patriotic act inflicted a difficult moral and political injury to the insurgent army and its air force. At the same time, it instilled a feeling of spite and national pride in Croats during the most crucial days of the Homeland War. Perešin was actively involved in the formation of the Croatian Air Force and participated in the Croatian Armed Forces' offensives. The second day of Operation Flash proved fatal to him: in the early morning hours of 2<sup>nd</sup> May 1995, Perešin's aircraft was shot down by enemy anti-aircraft artillery above the village of Stara Gradiška. Perešin ejected from the aircraft above the occupied territory, but his fate remained unclear for some time. Ultimately, after long negotiations with the enemy, Perešin's remains were returned to Croatia on 4<sup>th</sup> August 1997. On the occasion of the 24<sup>th</sup> anniversary of Rudolf Perešin's death, his aircraft was transported from Austria to Barracks "Lieutenant Colonel Marko Živković" in the village of Pleso and put on display in front of the headquarters of the Croatian Ministry of Defence in Zagreb on 12<sup>th</sup> May 2019.

Perešin's MiG-21 jet fighter will be on display at the prospective Croatian Military Museum.

# Our products...



## CROATIAN MILITARY INDUSTRY PRODUCTS

A promotional video showcasing products of the Croatian military industry was screened at the Adriatic Sea Defense & Aerospace Exhibition and Demonstration (ASDA 19). The video features the most prominent Croatian manufacturers of the military equipment used by the Croatian Armed Forces.



## DEMONSTRATION OF JOINT MILITARY CAPABILITIES

During the Adriatic Sea Defense & Aerospace Exhibition and Demonstration (ASDA 19), units of the Croatian Armed Forces demonstrated their joint military capabilities through an exercise conducted at Barracks "Fleet Admiral Sveto Letica Barba" in Split on 10<sup>th</sup> April 2019. The participants included the Naval Infantry Company aboard the *Omiš* coastal patrol vessel prototype, the Croatian Air Force in the Mil Mi-8 and Bell OH-58D Kiowa Warrior helicopters, the Special Forces Command and many others.



## VISIT TO CROATIAN ENGINEERS IN PEACEKEEPING MISSION UNIFIL

The 2<sup>nd</sup> Croatian Contingent in peacekeeping mission UNIFIL has been in Lebanon since October 2018. *CROMIL*'s team spent a few days with Croatian military engineers in the area of operations and filmed them carrying out their tasks and collaborating with the armed forces of other nations participating in the mission.



## TEN YEARS OF NATO MEMBERSHIP FOR THE REPUBLIC OF CROATIA

In April 2019, the Republic of Croatia marked the 10<sup>th</sup> anniversary of its accession to the North Atlantic Treaty Organization. The video gives a brief overview of NATO missions in which the Croatian Armed Forces have participated.



## CATALOGUE OF THE CROATIAN DEFENCE INDUSTRY

Catalogue of the Croatian Defence Industry was published ahead of the Adriatic Sea Defense and Aerospace Exhibition and Demonstration (ASDA 19). The catalogue provides an overview of Croatian military equipment manufacturers' capabilities and achievements.



## EDITORIAL BOARD:

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Ministry of Defence of the Republic of Croatia  
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**Approved by:** Col Dražen Jonjić,  
Head of the Public Affairs and Publishing Service  
[www.morh.hr](http://www.morh.hr)

<http://www.hrvatski.vojnik.hr>  
e-mail: [hrvojnisk@morh.hr](mailto:hrvojnisk@morh.hr)



**Editor-in-Chief:**  
Željko Stipanović ([zeljko.stipanovic@morh.hr](mailto:zeljko.stipanovic@morh.hr))

**Deputy Editor-in-Chief:**  
Vesna Pintarić ([vpintar@morh.hr](mailto:vpintar@morh.hr))

**Journalists:**  
Domagoj Vlahović ([domagoj.vlahovic@yahoo.com](mailto:domagoj.vlahovic@yahoo.com))  
Lada Puljizević ([ladapuljizevic@yahoo.com](mailto:ladapuljizevic@yahoo.com))  
Petra Kostanjsak ([petra.kostanjsak@morh.hr](mailto:petra.kostanjsak@morh.hr))  
Martina Butorac ([mbutorac@morh.hr](mailto:mbutorac@morh.hr))  
Doris Ravlić

**Photographer:**  
Tomislav Brandt  
Mladen Čobanović

**Translation:** Iva Gugo  
**English language proofreading:** Daniel Kington

**Layout:** Predrag Belušić

**Marketing and finance:**  
Mila Badrić Gelo ([mbadic@morh.hr](mailto:mbadic@morh.hr))

**Print:**  
Print Office Zelina

**Postal address:**  
Ministry of Defence of the Republic of Croatia  
P.P. 252, 10002 Zagreb, Republic of Croatia

The views expressed in this magazine are not necessarily those of the Ministry of Defence.



