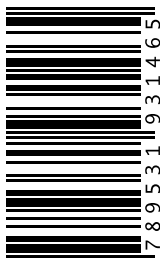


ISBN 978-953-193-146-5



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Croatian Defence Industry



ODJEL HRVATSKIH VOJNIH GLASILA
I IZDAVAŠTVA

Catalogue 2015





Ministry of Defence of the Republic of Croatia

Croatian Defence Industry

Catalogue 2015





Publisher	Ministry of Defence of the Republic of Croatia Public Relations and Publishing Department Division of the Croatian Military Press and Publishing
Editor in Chief	Željko Stipanović
Editor	Domagoj Vlahović
Layout Editor	Zvonimir Frank
Proof-Reader	Dubravka Marić
Approved by	Ana Bulić
Print	Tiskara Zelina d.d.

www.morh.hr
www.hrvatski-vojn timer.hr

A CIP catalogue record for this book is available from the National and University Library in Zagreb
under 000904098
ISBN 978-953-193-146-5

Data and materials in the catalog were obtained from the manufacturers
and the publisher does not guarantee for their accuracy.



ODJEL HRVATSKIH VOJNIH GLASILA
I IZDAVAŠTVA

Introduction



Dear readers,

The purpose of this fifth, expanded and updated edition of the Catalogue of the Croatian Defence Industry is to provide a comprehensive overview of the current capacities and achievements of the defence industry in Croatia.

The industry began developing in the Homeland War 1991-1995, in a fast and productive manner, prompted by the vital need for self-defence. It was characterised by a number of new businesses offering an array of new products and proposals across the defence spectrum.

In the post-war period the Croatian defence industry maintained a high level of development, applying new technologies and concepts and approaching the western, mostly NATO's standards of quality and thus managed to meet the demands of modernised Croatian Armed Forces and the international market.

Croatia's accession to NATO in 2009 and the European Union in 2013 respectively gave an important new incentive to the Croatian defence industry, bringing more free market values sustained by the two organisations and an essential reference for the industry operating in a country that is now a full member.

Throughout the time the Croatian defence industry has enjoyed the support from the Croatian Ministry of Defence and the Armed Forces, evident in the repetitive emphasis on the fact that the Croatian soldiers and officers were equipped and armed with the products "Made in Croatia". Such a policy was inevitably fostered by the quality of the products, of which the Croatian Armed Forces members were confident during the war operations and later on, participating in UN- and NATO-led missions and operations, in a variety of operational and climate conditions. It was the international operations that evinced the ability of the Croatian defence industry to adapt to different markets.

The interest of the international market and the development of the Croatian defence industry are evident from the latest data of the Government Agency Alan, which indicate that the Croatian arms and military equipment exports in 2014 totalled cca 1.5 billion kuna (197.1 mil EUR) in agreed and realised deals, which is a 20% increase compared to the year 2013. The figures reveal record amounts in exported state-of-the-art arms and equipment produced by some 20 businesses in Croatia and constant growth of exports in this branch of industry.

We hope that the Catalogue will provide useful information for any user interested in the Croatian defence industry and for potential customers alike.

the Editorial Board

CROATIA



Official name	Republic of Croatia	
Capital city	Zagreb	
Surface area	land 56,594 km², coastal waters (inland and territorial waters) 31,067 km²	
Neighbouring countries and length of borders	Slovenia	668 km
	Hungary	355 km
	Serbia	318 km
	Bosnia and Herzegovina	1,011 km
	Montenegro	23 km
Length of coastline	mainland 1,777 km, islands 4,058 km	
Highest peak	Dinara 1,831 m	
Language	Croatian	
Population (2011 census)	4,284,889	
Largest cities (2011 census)	Zagreb	688,163
	Split	167,121
	Rijeka	128,384
	Osijek	84,104
	Zadar	71,471
	Pula	57,460
	Slavonski Brod	53,531
	Karlovac	46,833
	Varaždin	38,839
	Šibenik	34,302
	Sisak	33,322
	Vinkovci	32,029
	Velika Gorica	31,553
	Dubrovnik	28,434
Political system	unitary democratic parliamentary republic	
Head of state	President of the Republic	
Membership of international organisations	United Nations	from 1992
	NATO	from 2009
	European Union	from 2013
Gross National Product (2012)	HRK 334 billion (EUR 45 billion)	
Gross National Product per capita	EUR 10,205	
Exports	EUR 9.6 billion	
Imports	EUR 16.2 billion	
Currency	kuna (HRK)	
Statehood Day	June 25	
International country code	HR	
Telephone prefix	385	
Internet domain	.hr	
Time zone	UTC+1	



Source: croatia.eu

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Combat set	8 missiles (4 on launcher and 4 on vehicle)
Mass	9850 kg
Dimensions	
- travelling position	7270x2700x2400 mm (silhouette 2000 mm)
- combat position	7270x2700x3635 mm



Production of the prototype of the launcher's main subsystems under the Russian licence started

- Maximum speed
 - on bituminous roads up to 90 km/h
 - on poor-quality roads up to 35 km/h
- Transport characteristics
 - drive 3 axles, 6 x 6
 - maximum gradient up to 70%
 - obstacles up to 1500 mm height at 35%
 - side incline up to 35%
 - vertical obstacle up to 515 mm height
 - trench up to 600 mm width
 - water obstacle up to 1000 mm depth
- Combat characteristics
 - firing mode stationary or in motion at 30 km/h
 - target detection and acquisition search radar:
 - optronic sensors
 - (TV and thermovision camera)
 - on the launcher
 - homing: IR/photo contrast with selection of actual target
 - warhead type: with impact and laser-operated proximity fuse
 - target height 25 - 5000 m
 - slant range up to 7000 m
 - head-on course up to 1500 km/h
 - dog course up to 1100 km/h

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The new concept of the launcher design is based on latest technologies and new subsystems such as optronic subsystem with TV and thermovision camera and monitors for the operator and commander, and subsystems for automatic positioning and automatic orientation of the vehicle and the launcher, and automatic determination of the launching zone. Thus, the newly developed launcher can be compared with similar modern systems in the world. Using the optimally designed hardware that also includes the central computer, and using the own developed software, the reaction time of the system has been significantly reduced, resulting accordingly in increased effectiveness of the system. The structure of the launcher, illustrated in the block diagram below, enables further upgrading, in accordance with the customer's wish, of both hardware and software, and in this way enabling the application of the missiles used in the West (e.g. CHAPARRAL, STINGER, MISTRAL, RB-70, etc.).

Possible ways of co-operation

We can offer the latest model of the launcher with all subsystems, the modernization and logistic support with our assemblies and sub-assemblies for the original Russian launchers; the development and production of the commander's cabin for the integrated fire control system on the level of a battery or artillery bat-

alion; workshop for the maintenance of launchers and missiles, automotive battery power unit.



Launcher STRIJELA 2M LU S-2 HV

Launcher Strijela 2M LU S-2 HV is assigned for launch preparing and self-launching of the rockets in manual and automatic target practice conditions of portable surface-to-air missile system.

Dimensions	380x160x60mm
Mass	2 kg
Acceleration time of gyroscope	max 5 s
Permissible time of target following	max 60 s
Rocket launch time after trigger activation	max 1,93 s in automatic mode max 0,91 s in manual mode

Power Supply BATNAP 40-1,3

Power Supply BATNAP is designed for power supply of portable surface-to-air missile system STRIJELA 2M and IGLA.

Dimensions (with bag)	210x120x210 mm
Mass	3,8 kg
Minimal number of launches with charged battery	100 launches at 0 - 50° C 50 launches -30 - 0°C



Adria-Mar Shipbuilding



PV30-LS

Adria-Mar Shipbuilding Ltd. specializes in design, building and repair of special purpose and naval vessels, and equipment.

Our Market Strategy

- Flexibility in cooperation with our customers. Our goal is to define the design objective together with our customer, offering expertise in process.
- Quality in performing design, shipbuilding or ship repair task in reasonable time period.
- Long-term relationship with our customer through lifetime service and support.
- Quality management and quality assurance policy in accordance with EN ISO 9001

Our Team

Every project in our company is carried out by special taskforce assembled for the purpose. We are a team of both young and experienced naval architects, marine engineers, mechanical and electro engineers.

External Cooperation

In accordance with our market strategy we consult our partners for service whenever it is necessary. We successfully cooperate with companies and institutions that are prominent in their field of work.

Our Capabilities

- Design, building and repair of special purpose and naval vessels



OPB31

- Design, building and repair of special ship equipment
- Overhaul of navigation and communication equipment
- Overhaul of weapon systems (rocket bays, guns)
- Engineering and consulting services
- Participation in general design, feasibility studies, expert studies, project management and project supervision

Current Projects

OPB31 - patrol vessel

Length: 30 m

Speed: 30 kn

- based on PV30-LS project
- S&R duties, EEZ control

OPB39 - patrol vessel

Length: 39 m

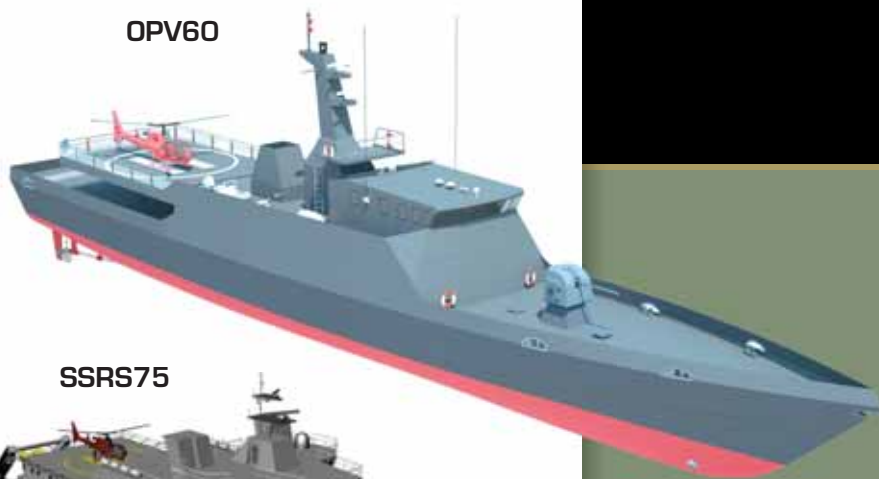
Speed: 30 kn

- S&R duties, EEZ control
- extended mission duration



OPB39

OPV60



SSRS75



OPV60 - offshore patrol vessel
 Length: 60 m
 Speed: 27 kn
 - EEZ control
 - monitoring of sea traffic
 - law enforcement duties

SSRS75 - submarine support and rescue ship
 Length: 79 m
 Speed: 15 kn
 - propulsion: 2 x azimuth thrusters with 1800 kW electric motor each
 2 x bow thrusters
 - manoeuvring: DP3
 - basic functions: subsea rescue mission up to 600 m depth, deep diving works to 300 m depth and surface rescue operations

DRAKON220



DRAKON220 - midget submarine
 Length: 30 m
 Speed: 3.5 kn (cruising range: 280 nm); 10.2 (cruising range: 10 nm)
 - small multipurpose submarine
 - diesel electric propulsion
 - perfect for littoral seas
 - large action radius and endurance
 - cost-effective solution
 - deterrent against stronger enemies

Contact:

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 www.adria-mar.hr

References

Patrol vessel PV30-LS; 6 units

Year: 2006 - 2008

Length: 30 m

Speed: 30 kn

Installed power: 2 x 1680 kW

Commission:

- Complete design and building of six (6) vessels
- Crew training

LSTH ships Ibn Haritha, Ibn Ouf

Year: 2008

Length: 100 m

Installed power: 2 x 2000 kW

Armament: 3 x 2/40mm

Commission:

- Repair estimates
- Overhaul including weapons and C3I systems

Combattante IIG class ship Laheeb

Year: 2008

Length: 50 m

Installed power: 4 x 2000 kW

Armament: 1 x 76 mm, 1 x 40 mm

Commission:

- Repair estimates
- General overhaul including guns, rocket bays and C3I systems

Hydrographic boat HVO1

Year: 2008

Length: 8 m

Propulsion: Jet

Commission:

- Design and delivery of boat and hydrographic equipment
- Crew training

Spasilac class rescue vessel Al Munked

Year: 2006

Length: 60 m

Commission:

- Repair estimates
- General overhaul including hydrographic equipment, diving bell, rescue submarine, pressure chambers and C3I systems



Eurosatory 2014

Alan Agency

Alan Agency, located in Zagreb, was established under the Government's Act of Foundation, based on the Code on production, overhaul and trade of weapons and military equipment. Alan Agency is organised as a limited liability company, established for import and export of defence equipment and additional supervision of the defence equipment production for export.

By establishing Alan Agency the Government of the Republic of Croatia remained strict to the implementation of its transparent policy, keeping the defence equipment trade transparent and in accordance with adopted international obligations (Treaty on the Non-Proliferation of Nuclear Weapons, Conventions concerning

anti-personnel mines, conventional weapons with excessive injuries, chemical weapons and bacteriological and toxic weapons). The Agency operates within the frame of these obligations and according to Croatian legislation which defines the production, trade and quality of products.



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IDEX 2013

Basic tasks performed by Alan Agency:

- import and export of weapons and military equipment for Army and Police requirements;
- sale of army stock surpluses, that have become incompatible due to modernization of the Croatian Armed Forces;
- controlling the production of weapons and military equipment for export, by issuing the approval for production to Croatian producers, in consultation with the MOD;
- negotiating and stipulating contracts with foreign buyers for export deliveries (agency makes contracts for export production with Croatian producers;
- import and export of weapons and military equipment for commercial purposes;
- marketing and market research of production and trade of defence equipment, with assistance of the MOD expert team;
- consulting and agency for production and trade of defence equipment;

- agency for "offset" arrangements for production and trade of defence equipment.

Alan Agency co-operates closely with the Ministry of Defence (concerning import and export and other military aspects) and the Ministry of Foreign Affairs (requesting comments and suggestions regarding the political situation for every special contract).

Special attention is given to the implementation of offset arrangements in acquisitions of capital equipment. With its efforts in contracting the technology transfers and international technical co-operation, as well as implementing offset arrangements.

All of the incomes from exporting stock surpluses are reinvested into modernisation of the Armed Forces, which enables the development projects and creating new or improved systems.

ATIR - Agency for Technical and Technological Research and Development

ATIR is one of the leading Croatian agencies engaged in special production and R&D activities in the field of technology, especially in the field of special products, equipment and devices, anti-explosive protection of equipment and devices, and designing of special plants. It closely cooperates in development and technology with a number of leading Croatian companies, institutes and universities.



40 mm LOW VELOCITY AMMUNITION

NO.	TYPE	CODE
1.	HIGH EXPLOSIVE, DUAL PURPOSE	HEDP M9433
2.	RIOT CONTROL - TEAR GAS - CS	TEAR CS M9651
3.	RIOT CONTROL - RUBBER	RUBBER M9006
4.	TARGET PRACTICE - TRACER	INERT TT M9782
5.	TARGET PRACTICE - MARKER	INERT TM M9781
6.	TARGET PRACTICE	INERT M9783
7.	TARGET MARKER - YELLOW SMOKE	SMOKE M9676
8.	TARGET MARKER - RED SMOKE	SMOKE M9682
9.	TARGET MARKER - WHITE SMOKE	SMOKE M9680

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RIOT CONTROL TEAR GAS TEAR CS M9651

NO	TECHNICAL DATA	GRENADe TEAR CS M9651
1.	TYPE	RIOT CONTROL (TEAR GAS CS)
2.	CARTRIDGE LENGTH	106.5 MM
3.	CARTRIDGE MASS	240 G
4.	PROJECTILE WEIGHT	190 G
5.	FUZE	M100 PYROTECHNICS
6.	PROJECTILE SPIN	3.600 MIN ⁻¹
7.	PYROTECHNICS	CS SMOKE CHARGE
8.	PYROTECHNIC CHARGE	50 G
9.	BURNING TIME	15-22 S
10.	DELAY TIME	2 S
11.	RANGE	375 (400) M
12.	VELOCITY	76 M/S
13.	COLOR, PAINTING	GRAY/ALUMINUM NATURE
14.	EMPLOYMENT	40 MM RBG-6, MGL-6, M79, M203, RBG-1, EX41, HK69A1, HK79
15.	GUARANTEE	3 YEARS
16.	USEFUL LIFE	5 YEARS
17.	OPERATING TEMP.	-40 °C TO + 63 °C
18.	PRODUCTION	2013
19.	PACKING	METAL BOX, 50 PIECES
20.	HAZARD CLASSIFICATION	UN CLASS: 1.2E , UN NO: # 0321



TARGET PRACTICE MARKER INERT TM M9781

NO	TECHNICAL DATA	GRENADe INERT TM M9781
1.	TYPE	PRAKTIKE GRENADE (TARGET MARKER)
2.	CARTRIDGE LENGTH	106.5 MM
3.	CARTRIDGE MASS	240 G
4.	PROJECTILE WEIGHT	190 G
5.	FUZE	NO
6.	PROJECTILE SPIN	3.600 MIN ⁻¹
7.	MARKER	COLOR MARKER POWDER
8.	RANGE	375 (400) M
9.	VELOCITY	76 M/S
10.	COLOR, PAINTING	BLUE/ALUMINUM NATURE
11.	EMPLOYMENT	40 MM RBG-6, MGL-6, M79, M203, RBG-1, EX41, HK69A1, HK79
12.	GUARANTEE	3 YEARS
13.	USEFUL LIFE	10 YEARS
14.	OPERATING TEMP.	-40 °C TO + 63 °C
15.	PRODUCTION	2013
16.	PACKING	METAL BOX, 50 PIECES





RIOT CONTROL RUBBER M9006

NO	TECHNICAL DATA	GRENADE RUBBER M9006
1.	TYPE	RIOT CONTROL (RUBBER CARTRIDGE)
2.	CARTRIDGE LENGTH	106.5 MM
3.	CARTRIDGE MASS	200 G
4.	PROJECTILE WEIGHT	140 G
5.	FUZE	NO
6.	PROJECTILE SPIN	3.600 MIN ⁻¹
7.	PYROTECHNICS	NO
8.	RANGE	150 (200) M
9.	VELOCITY	76 M/S
10.	COLOR, PAINTING	BLACK/ALUMINUM NATURE
11.	EMPLOYMENT	40 MM RBG-6, MGL-6, M79, M203, RBG-1, EX41, HK69A1, HK79
12.	GARANTEE	3 YEARS
13.	USEFUL LIFE	5 YEARS
14.	OPERATING TEMP.	-40 °C TO + 63 °C
15.	PRODUCTION	2013
16.	PACKING	METAL BOX, 50 PIECES

SMOKE GRENADE 40X46 mm SMOKE 01

No	TECHNICAL DATA	GRENADE SMOKE M9676 (01)
1.	Type	SMOKE (YELLOW)
2.	Cartridge Length	106 mm
3.	Cartridge Mass	239 g
4.	Projectile weight	188 g
5.	Fuze	M100 pyrotechnics
6.	Projectile Spin	3.600 min ⁻¹
7.	Pyrotechnics	YELLOW smoke charge
8.	Pyrotechnic charge	50 g
9.	Burning time	15-22 s
10.	Delay time	3 s
11.	Range	375 (400) m
12.	Velocity	76/78 m/s
13.	Color, painting	YELLOW/aluminum nature
14.	Employment	40 mm RBG-6, MGL-6, M79, M203, RBG-1, EX41, HK69A1, HK79
15.	Guarantee	3 years
16.	Useful life	5 years
17.	Operating Temp.	-40 °C to + 63 °C
18.	Production	0115
19.	Packing	Metal box, 50/60 PIECES

Technical data:

Max range6,7 km
 Rocket weight17,8 kg
 Rocket length1070 mm
 Caliber107±0,25mm
 Pyrotechnical Infrared charge IC 210,8kg
 Mass of rocket propellant2,5 kg
 Max speed300 m/s
 Infrared emission time35 s
 Infrared emission delay time0,2 - 0,7 s
 Rocket motor working time0,9 s



Rocket
 RIZC 107 M97
 Flying Target



ATIR GRENADE 40x46 TECHNICAL SPECIFICATION (2015)

No	TECHNICAL DATA	HEDP 01	SM 01
1.	Type	HE-DUAL PURPOSE (High explosive anti-personnel and anti-armoured targets)	SMOKE (signal and marking ammunition)
2.	Reference	HEDP 01	SM 01
3.	Country of origin	Croatia	Croatia
4.	Total height	106 mm	106 mm
5.	Body diameter	40 mm	40 mm
6.	Total weight	239 g	239 g
7.	Projectile weight	188 g	188 g
8.	Fuze	URJ – 004	Pyrotechnic
9.	Arming of the fuze	Inertia and centrifugal force, with misaligned fire train	-
10.	Arming distance	10 – 18 m	Delay 3 sec
11.	Explosive	RDX	Smoke
12.	Explosive Weight	32.5 g	50 g
13.	Fragments Weight and quantity	> 45+22 g >400	Red, yellow, white, green smoke
14.	Lethal radius	>5 m	-
15.	Range	375 (400) m	375 (400) m
16.	Velocity	76 m/s	76 m/s
17.	Penetration	> 50 mm steel plate	-
18.	Precision	100 m distance, min 12 grenades from 15 shoots must be in target 1x1 m	
19.	Malfunction	2/100 acceptance	
20.	Temp.range	-30 to + 50 °C (in special case, it is possible to change distance, on buyer request)	
21.	Class	1.2 E	1.4 G
22.	Colour, painting	Black / gold	Black/yellow (aluminium)
23.	Markings	Yellow painting type, Model No., Lot, year and month of production, producer	
24.	Employment	40 mm RBG-6, MGL-6, M79, M203, RBG-1, EX41, HK69A1, HK79	
25.	Guarantee	3 years	
26.	Useful life	10 years	5 years
27.	Year of manufacture	2015	
28.	Technical Tests	Factory certified in English language presented with certify by specialties: fragmentation, penetration, vibration, centrifugal safety, salt leakage, extreme temp. function, falling down test, arming/non arming, target precision, range	Factory certified in English language presented with certify by specialties: vibration, salt leakage, extreme temp. function, falling down test, range
29.	Packing	Metal box, 50/60 pieces of grenade	

Belina



Protective cover for military combat devices

Rich business tradition of the company Belina is the guarantee of safety and quality performance of each project. Over the past 30 years we have specialized in making truck covers and tarpaulins for military vehicles, textile architecture, tents, halls, textile cover for combat vehicles and warfare...

The company operates on a location in NW Croatia (Krapinske Toplice) in modern business-production facilities that cover an area of over 6000 m².

An important factor of business success and our dominance in the industry is certainly the fact of constantly monitoring new features and significant investment in new technology.

The main groups of products for the military industry:

- Car tarpaulins and tarpaulins for military vehicles
- Covers for combat vehicles and warfare
- MURO special trailer
- Tents and halls
- Textile Architecture

The production of military protective textiles is one of our traditional fields.

We are qualified to fulfill technical delivery conditions and specifications, such as flame retardancy and IR remission in the respectively valid military standards.

For truck tarpaulins, covers, tents and equipment we use Sattler Polyplan Military PVC fabric Austrian Edition according to the specifications of the Austrian Armed Forces. Our quality Sattler Polyplan Military NATO German Edition fulfills requirements according to technical delivery conditions TL 8305-0253 of German Armed Forces.

The company Belina cooperates exclusively with high-quality manufacturers of raw materials used in the production process and so for over 30 years we cooperate with the company Sattler AG from Austria for which we are exclusive partner and representative for the Republic of Croatia.



Military truck tarpaulin

SPECIAL TRAILER MURO - MOBILE SOLUTION

Contact:
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fax: +385 49 587222
e-mail: belina@belina.com
www.belina.com
www.muro.hr



MURO open and ready for use as command post or any other military need

MURO is acronym for "mobile universal re-assembly object". This means that it can be used at various locations. All that is needed is vehicle to pull the trailer to the location, five minutes to assemble the MURO and that's it - it is ready! Seemingly, it is an ordinary trailer, but only 5 minutes later it can become a large facility with 50 square meters that meets all your wishes and requirements.



MURO closed for transport



Berta projekt

COMPANY PROFILE

The Company was founded in 1968 and has produced firearms since 1990 when it launched the sniper rifle production of .308 calibre Winchester and .300 calibre Winchester Magnum. Concurrently the Company started the production of ammunition for infantry for .308 W and .300 WM sniper rifles.

In its sniper rifle manufacturing programme the Company has produced barrels and all other elements, and steel parts surfaces have been treated in a process of applying phosphate coating. Optical sights have been procured from reputable manufacturers (Zeiss, Schmidt und Bender etc.).

With respect to the firearms development and manufacturing the Company keeps up with the latest world trends so that at present it produces the sniper rifle of .338 calibre Lapua Magnum, with effective range up to 1500m and .300 Winchester Magnum, with effective range up to 1200m.

Sniper rifles are intended for special military and police forces. The "bull-pup" construction design has enabled the overall rifle length to be shortened by 250 mm, thereby retaining the same barrel length which is a great tactical advantage compared to the classic design. Sniper rifles are internationally patented for industrial design.



Along with the sniper rifle development the Company has developed sniper armour-piercing ammunition in calibre .338 Lapua Magnum 8.6x70mm and .300 Winchester Magnum 7.62x66mm, for its own rifle, and then other calibres as well:

- .308 Winchester 7.62x51mm
- .223 Remington 5.56x45mm
- 7.62x39mm
- 9x19mm

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Armor- piercing penetration of a steel plate hardness 300HB is illustrated in photos below:



Armor- piercing ammunition is internationally patented for industrial design too.

Borovo

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 www.borovo.hr

Borovo represents tradition. As the oldest (though modern) and best known Croatian manufacturer of leather, rubber and textile-rubber footwear, with over 80 years of rich tradition, Borovo is the largest Croatian manufacturer of these products.

Our market-oriented production is subject to daily improvements and modernization, both in terms of technology and human resources, with the sole focus on the established and well-known Borovo brand - backed by longtime quality. Orientation towards fashion trends and consumers requirements is a fundamental focus of development and production of our products.

Article: H-10601



Upper: Cow leather, hydrophobic
Lining: Four layer textile laminate, waterproof and vapor permeable
Inlay sole: Multi-layer non-woven textiles absorbent layer, anatomically contoured, removable, washable up to 30 °C
Sole: Dual Layer PU / Rubber
 Slip resistant, resistant to penetration, resistant to gasoline and oil
Size range: 35-50
Features : Waterproof, anatomically shaped, antistatic.

We design and produce:

- elegant, urban, protective and sports footwear - more than 80 years
- military and police footwear - more than 30 years
- ballistic protection - more than 30 years

In Borovo, we constantly strive for: quality, modernization, development, innovations, team work, QHSES

Article: H-11496

Upper: Cow leather, hydrophobic, with textile
Lining: Four layer textile laminate, waterproof and vapor permeable
Inlay sole: Multi-layer non-woven textiles absorbent layer, anatomically contoured, removable, washable up to 30 °C
Sole: Dual Layer PU / Rubber
 Slip resistant, resistant to penetration, resistant to gasoline and oil
Size range: 35-50
Features : Waterproof, anatomically adapted, antistatic



BALLISTIC PROTECTION

B-1

Protective vest against fragments



Assignment:

Protection from fragments, exploded missiles, grenades, rejected missiles and physical shoots; primarily for demining activities.

B1 enables comfort and easy movements during work, moving and using military technique, armament and vehicles (e.g. excellent for mechanized military troops on land).

BALLISTIC PROTECTION

Protective vest against fragments B1

Sizes: S (48-50) M (50-52) L (52-54) XL (54-56) XXL (56-58)
Weight (kg): 2920 3050 3200 3400 3650

Protection level: STANAG 2920
v50 = 480m/s

Protection according to
STANAG 2920.

Composition:

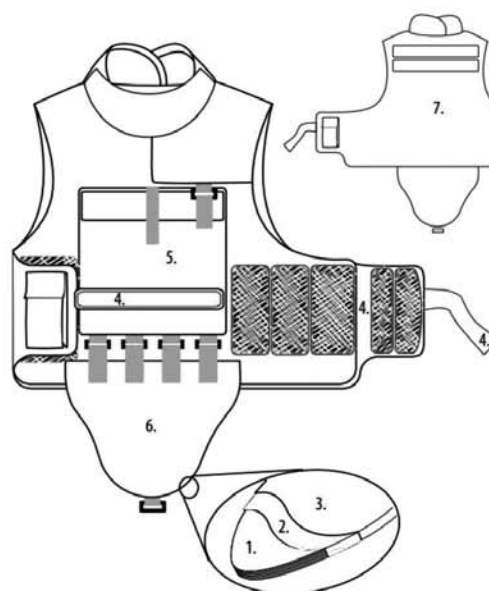
B-1 shape is designed for better protection of the upper body, shoulders and neck. Additional genitals protection can be customized according to the buyer. Our vest protection consists of frontal and back sides jointed in shoulder and in lateral area with elastic joints while overlapping in combination with Velcro tape. It adapts easily to body shape. Practical while dressing and undressing. B-1 has two-part collar with overlapping; the frontal part is secured with additional protective part. Ballistic plate is added as a pocket to increase the level of protection.

Material:

B-1 vest is made from textile materials. The basic ballistic protective package is made of certain number of complete layers, according to the given protection level. To give you a maximum increase of protective characteristics durability, our protective package is supported by hydrophobic textile cover against moisture, perspiration and light. For additional buttoning and fixing there are buckles for band connections. Outer cover and other parts are adapted for heavier wearing conditions. Back surface is visible marked. Outer look, colours, design, signs and similar are customizable according to the buyer.

Maintenance:

B-1 parts, without protective packages, can be washed in the machine or by hand. Ballistic protective Packages and additional protective parts can be cleaned with wet textile.



Composition of protective vest

- 1 - Protective package (aramidic PPTA material)
- 2 - Covering for the protective package
- 3 - Outer cover of the vest (hydrophobic)
- 4 - Velcro tape
- 5 - Pocket
- 6 - Protector for genitals-only for B-1
- 7 - Back part

BALLISTIC PROTECTION

B-6A

Protective vest against bullet

Assignment:

Great protection against bullets fragments and exploded missiles.

The vest is designed to protect neck, chest, back, shoulders, belly, groin and genitals.

Composition:

All parts are made from: ballistic protective package (soft protection) which covers above mentioned parts of the body, protective cover of ballistic package, outer cover and ballistic protective plate (hard protection), together with carrying bag. Neck protection is made from three-parts collar. Front part connects lateral parts with Velcro tape. Inside area of the vest ensures freely breathing of a skin and decreases perspiration.

Protection according to
NIJ STD 0101.04.

BALLISTIC PROTECTION

Protective vest against bullet B 6A

Sizes: S (48-50) M (50-52) L (52-54) XL (54-56) XXL (56-58)
Weight (kg): 4500 4640 4870 5200 5610

Protection level: NIJ STD 0101.04
III-A

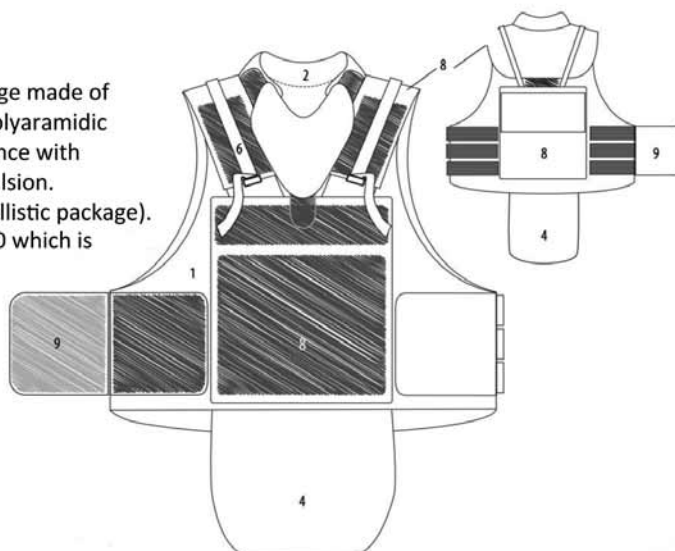
B-6A

Material:

Ballistic soft protection of the vest is protective package made of multiple textile layers which are made from special polyaramidic filaments and is protected against atmospheric influence with polyester textile that is impregnated with silicon emulsion. The package is placed in outer cover (the carrier of ballistic package). The Vest's outer cover is made of textile Cordura 1500 which is waterproof, as well as the carrying bag, but air and water steam can pass through. The inside part of the outer cover is a combination of three components; Ve-Me net, thermotex (Outlast), and thermotex protection. Ballistic hard protection is made from two ballistic protective layers (25 cm x 30 cm), made with combination of ceramic layers with ballistic protective textile. With the combination of hard and soft protection the total level is increased to III or IV according to NIJ 0101.04. It can be customized according to the buyer.

Maintenance:

B-6a parts, without protective package, can be washed by hand or in a machine on the maximum 40 C and can be dried in air. The outer cover can be dry cleaned with perchlorethylene, and ironed on temp. 110° C, on the lowest grade. B-6a vest should be kept in dry and sunless place.



Composition of protective vest

- 1 - Frontal and back part with protective package
- 2 - Collar with protective package
- 3 - Collar's frontal adding with protective package
- 4 - Groin's part with protective package
- 5 - Shoulder's part with protective package
- 6 - Tape with buckle
- 7 - Connection of shoulder's part from back
- 8 - Pocket for hard protection
- 9 - Lateral overlapping with Velcro tape
- 10 - Elastic tape

BALLISTIC PROTECTION



Protective vest against fragments

Basic technical data:

Ballistic protective vest for external wearing (model B-10) protects the user from splinter of exploded projectiles, grenades, rejected missiles and physical shoots, primarily for demining activities. The vest is shaped to protect the neck, chest and back, shoulders, stomach, groins and genitals and consist of: external cover and ballistic protective package in protective cover. This type enables comfortable wearing during working, moving and using the military equipment, weapons and vehicles (e.g. for the tasks of mechanized land military troops).

Protection according to
STANAG 2920



Back side



Front side

Article: H-11490

Upper: Cow leather, hydrophobic

Lining: Four layer textile laminate, waterproof and vapor permeable

Inlay sole: Multi-layer non-woven textiles absorbent layer, anatomically contoured, removable, washable up to 30 °C

Sole: Dual Layer PU / Rubber

Slip resistant, resistant to penetration, resistant to gasoline and oil

Size range: 35-50

Features : Waterproof, anatomically adapted, antistatic



BALLISTIC PROTECTION



Protective vest against bullet

Basic technical data:

Ballistic protective vest for external wearing (model B10-MN) protects the user from the grain of small arms and splinter of exploded projectiles.

The vest is shaped to protect the neck, chest and back, shoulders, stomach, groins and genitals and is consist from: external cover and ballistic protective package in protective cover.

It is ballistically tested by Beschussamt Mellrichstadt, Germany according to the standard NIJ 0101.04 and it provides protection according to the same standard - protection level III A.

Protection according to
NIJ 0101.04, Level IIIA



Front side

Article: H-28611-2

Upper: Cow leather, hydrophobic

Lining: Cow leather, hydrophobic - high abrasion resistance

Inlay sole: Cow leather + foam filling under the entire surface of the insole

Sole: PU profile – antishock, antislip, antistatic, oil-resistant

Size range: 35-50





Brodarski institut

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Brodarski institut is a research and development institution of applied technical sciences, founded in 1948. Brodarski institut is a government-owned limited liability company and represented through the Ministry of Science, Education and Sports, the Ministry of Economy, Labour and Entrepreneurship, and the Ministry of Defence. Brodarski institut's main activities are in the fields of marine technologies, surveillance, monitoring and defence, environmental technologies, renewable energy sources and safety.

Patrol boat





Control system on a fast attack missile craft



Automatic degaussing system "ADS"



Mine countermeasures control system "PMS 2000"

As a leading institution for design and development of underwater and surface vessels, Brodarski institut has designed the frigates of the *Split Class*, missile corvettes *Kralj Petar Krešimir IV* and *Kralj Dmitar Zvonimir*, submarines of *Sava Class*, *Heroj Class*, *Una Class* and *Velebit Class*, landing craft, patrol boats, as well as mine countermeasures vessels.

Brodarski institut also designed a ship combat resistance range for the naval tactical training facility.

The Ship Hydrodynamics Division of Brodarski institut is an advanced research establishment with state-of-the-art laboratories and testing facilities. The large towing tank (276.3 m long, 12.5 m wide and 6 m deep) is equipped with a carriage, having max. speed of 14 m/s, and a wave generator. In the towing tanks and cavitation tunnels, testing of ship resistance, self-propulsion, cavitation, maneuverability, seakeeping on regular and irregular waves and launching can be performed. Ship and propeller models are manufactured in own manufacturing workshops. Since its founding, the Brodarski institut has manufactured and tested over 1400 ship and 1200 propeller models. About 30 per cent of the tested models were fast ships, naval and special purpose ships designed for the police, coast guard, port authorities etc.

Numerical hydrodynamics is among more recent services of Brodarski institut. Fluid flow calculations are performed using up-to-date commercial software. Brodarski institut provides services of modelling of flow around the ship hull and presenting all important features of the flow: wave pattern, limiting streamline, flow at the stern, wake field important for propeller design and resistance force calculation.

Brodarski institut's specialists in ship hydrodynamics also perform full-scale tests and measurements of propulsion, maneuverability, sea keeping of ships, platforms, special vessels and other vehicles. All sea trials (the prototype, the delivery and measurements in exploitation) are performed in accordance with international rules and standards: NATO, IMO, ISO/IEC and international ship registries.



In the field of automation, control, surveillance and communication systems (design, integration, and in special cases construction and production of equipment and systems), Brodarski institut provides turn-key solutions of control systems for surface vessels and submarines:

- Control and monitoring of propulsion systems
- Control and monitoring of auxiliary ship systems
- Ship guidance systems including steering wheel, autopilot, co-ordinate guidance, trajectory tracking and dynamic positioning
- Submarine guidance and monitoring systems
- Systems for automatic compensation of ship underwater magnetic signature
- Computerized test implies electro-hydraulic and pneumatic components and equipment
- Sonars; sonar signal analyzing systems; sonar range prediction systems; submarine/ship underwater self-noise monitoring systems;
- Stationary underwater intrusion protection systems
- Mine countermeasure systems for ships (integration of commercial and professional equipment)
- Side scan and forward-looking sonars, underwater vehicles, explosive charges, DGPS navigation,
- Development of bottom surveillance and charting procedures

Brodarski institut has also references in design and construction of ammunition and mines. Prior to the procurement of a combat vehicle, Brodarski institut executed an armament study ordered by the Ministry of Defence.

Brodarski institut provides underwater inspections by using intelligent underwater systems of the latest technology. Some of the applications include:

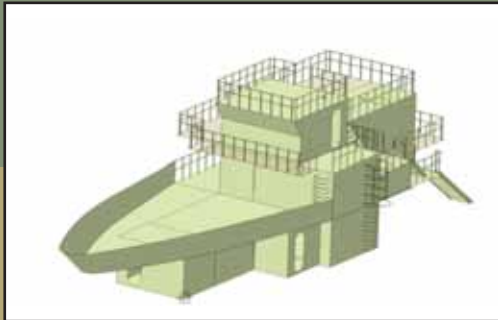
- Mine countermeasures
- In-situ biological studies and sampling
- Port and harbor security tasks



Testing of a sea mine and of marine structures resistance to underwater explosions



Midget submarine "Velebit"



Multipurpose fixed section of a testing platform for combat resistance of the ship



Sea trial



Flow around submarine object



Crashed aircraft detected on sea bed



Large towing tank

- Ship hull inspections
- Dam and tunnel inspections
- Pipe and water tank inspections
- Inspection of nuclear reactor facilities
- Mooring chain inspections
- Salvage operations
- Offshore structure surveys
- Search and rescue operations
- Police evidence search and recovery

Underwater inspections on hydroelectric power plants, a crashed airplane search and rescue mission and more complex missions such as underwater cave mapping and 3D modeling were carried out by two remotely operated underwater vehicles (ROVs).

In the field of testing, measurement and calibration, Brodarski institut provides the following services:

Testing of machines and equipment to shock, vibration, bumping and internal and external hydrostatic pressure

Calibration of vibration meters and transducers

Testing of stress and strain distributions on structures and models under static and/or dynamic loads

Testing of vibration of ship structures and equipment

Calculation and measurement of torsional, axial and lateral vibration of propulsion shafting systems

Measurement of noise and structural sound, sound absorption and isolation, damping and emission of materials and structures

Characterization and calibration of acoustic equipment, transducers, sensors (sonars, sea mines, diver communication, underwater remote control and activation)

Measurement of ship hydroacoustic and magnetic signatures and resistance of structures to underwater explosions

Testing of ammunition and weapons: internal, external and terminal ballistics, rocket propulsion testing, recoiled mass movement analysis

Characterization of materials (explosives, propellants and pyrotechnics) by thermal analysis.

Brodarski institut maintains an integrated management system according to ISO 9001, ISO 14001, OHSAS 18001 and ISO/IEC 17025.





Croshield

CROSHIELD® Ltd. is modern, privately owned Company headquartered in Croatia-Europe. We are a company specialized in development, manufacturing and distribution of high-quality and innovative body armor. We offer a wide range of ballistic protective solutions for military, law enforcement and civilian customers worldwide.



CS77 Modular



Bulletproof Jacket

CROSHIELD® Management System is certified according to ISO 9001:2008 and Environmental Management System ISO 14001:2004.

Our products are made of high quality materials from world leading fiber manufacturers, including Ultra-high-molecular-weight polyethylene, Aramide and ultra performance Hybrid solutions.

CROSHIELD® is proud to be recognised by the customer for custom-made projects as a reliable partner.

CROSHIELD® products are designed and manufactured in Croatia under High Quality Control System in accordance with the highest International Standards.

- Support
- Longer guarantee
- Competitive prices
- Short delivery time
- Product knowledge
- Custom-made solutions
- More quality and comfort
- Strong international partners



CS25



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www.croshield.hr

- Complete solutions for your protection needs
- Experts with over 20 years of experience in the body armor business

Research & Development

CROSHIELD® R&D department is dedicated to develop innovative and improved ballistic products in order to protect lives. Our development team is a group of ballistic experts with more than 20 years of experience in the field of personal ballistic protection and textile production. Product customization is what we put in the first place and together with our clients we find solutions suiting their needs.

Production Capabilities

CROSHIELD® Group has production facilities in several locations in Croatia with more than 150 employees. Our production capacity is 15000 soft armor vests per month and 8000 hard armor plates.

We offer complete ballistic solution for US NIJ Standard, MIL STD, UK HOSDB, Russian GOST, German SK, French MOI and NATO STANAG.



CS40 Molle



Plate Carrier



CS80



CS77



CS88



Čateks

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Čateks d.d.

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www.cateks.hr



PHOTO SOURCE: MORH.HR

PREMIUM QUALITY MILITARY AND LAW ENFORCEMENT FABRICS AND CLOTHING



PHOTO SOURCE: MORH.HR

Čateks d.d. production organization is divided into three production units:

TEXTILE - weaving mill with final processing stage

POLYTEX - production of technical materials based on polyurethane

CONFECTION - protective mattress covers and professional waterproof protective clothing with high frequency welded seams

The latest generation Picanol weaving machines created the conditions for production of superior quality raw fabrics which, after the final processing stage, or refining, achieves the defined quality parameters concerning its appearance, texture and functionality.

In order to meet high standards, the final processing facility has been technologically equipped in such a way that it can meet almost all market requirements including the possibility of final processing of a wide range of fabrics of different fibre composition (cotton, polyester, polyamide, modacrylic, and their mixtures...) as well as dying by means of various types of dyes (reductive, reactive, disperse, acidic, metal complex).

141 years of tradition and new technology have enabled Čateks to establish business cooperation in highly demanding markets of Western Europe (Germany, France, Belgium...) and Croatian public institutions such as the Ministry of Defence, the Ministry of the Interior, the Croatian Post, the Croatian State Railways, and so on.

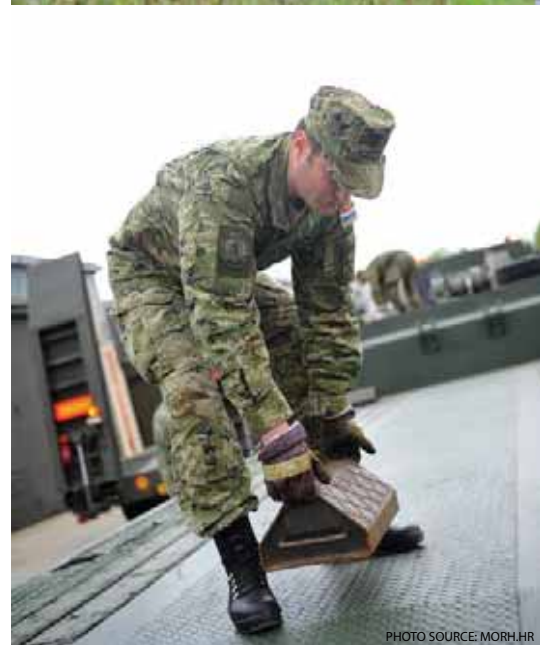


PHOTO SOURCE: MORH.HR

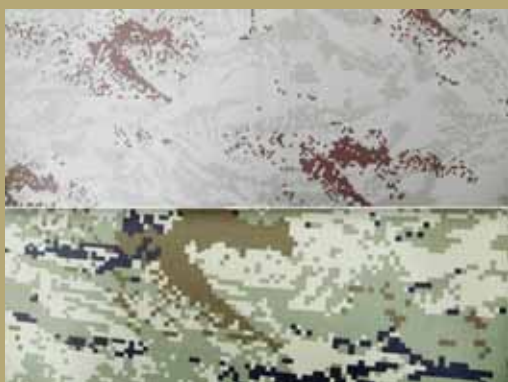
 **COMPAGO**
PROTECT

 **COMPAGO**
DEFEND

 **čateks** d.d.
ČAKOVEC



We provide only
the best quality!



Čateks also produces coated textiles for waterproof professional protective clothing, coated textiles for medical protective products program, textile laminate or multi-layered textile made by bonding breathable membrane and textile base by means of glue dots adhesive bonding technology.

The basic element of textile laminate is breathable polyurethane membrane produced in Čateks, the main characteristics of which are excellent transpiration, evaporation of sweat vapor and moisture while being waterproof and windproof at the same time.

The majority of Čateks' clients and customers set high standards for their products and require compliance with European standards so Čateks has valid product quality certificates issued by approved textile laboratories. Accordingly, the company has been awarded Öko-Tex Certificate for the past 15 years, which implies that the selection of raw materials is rigorous in order to secure the ecological adequacy of the final product.

CORDURA
BRAND
F A B R I C

Čateks d.d. is enlisted as one of the
licensed CORDURA® fabric producers



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DOK-ING



MV-4

DOK-ING Ltd. is a privately owned Croatian company, established in 1991, with headquarters and main production facilities of 15.000 m² located in Zagreb, Žitnjak. Along with another small production facility, "VJ-EKO" in Slunj, Croatia, DOK-ING maintains offices in the United States and South Africa which support its global operations. Today the Company has more than 200 employees, has been ISO 9001:2008 certified, exports 98% of its production, has the state-of-art manufacturing machines and equipment.

With over 20 years of experience, DOK-ING is today one of the international leaders in the design and production of UGVs, robotized systems for special purposes. The main feature of the product range is that all systems are remotely controlled, designed and produced to protect human lives in the most dangerous jobs, primarily in demining, firefighting and underground mining. Today, products based on DOK-ING's innovations, development and technology are present and working in more than 25 countries worldwide. The first years of DOK-ING were marked with the development of robotic system for humanitarian demining. After the war in Croatia great number of landmines led Mr. Vjekoslav Majetić and his team to develop remotely controlled system which would prevent accidents and protect people working in humanitarian demining. At that time the saying „Don't send a man to do a machines job!" became a motto of the



MV-10

Company. Being actively involved in humanitarian demining, DOK-ING improved its original systems based on vast rich empirical experience in real conditions. A number of exceptional references opened the world market and today DOK-ING covers more than 60 % of the light flail mine clearance systems (such as MV-4) market.

The next step was construction and development of the extra low profile dozers for underground mining industry, namely for world recognized mining company in South African Republic. Again, the innovation was concerned with remotely controlled systems to protect people working in life threatening conditions. Already a strong in-house R&D department developed first ever electric mining dozer that initialized a large development project for the known client, a project consisting of 6 different machines to be used in platinum mines of SA. The testing in real conditions of the prototypes has just begun.

The experience gained and a constant presence of innovative reflections produced a new line of products, now in the firefighting industry. With a goal to create a multifunctional system that could protect the firefighters by being operated from a safe distance, the first two systems were developed to meet the needs of the Russian Ministry of Emergency Situations, where they have been rigorously tested and evaluated by being used in protecting even the nuclear plant and equipment. One of the recent improved versions has been used by the Zagreb Public Fire Brigade as to test the multifunctional fire-fighting system and provide a professional feedback on the system's capabilities.

The latest addition and very specific breakthrough for DOK-ING was the construction of the concept and prototype of the first Croatian urban electric car, already presented at the most important auto shows in Europe and the USA. Opening a completely new class of luxurious urban electric cars, its production will be based on highly personalized orders, or, on small serial production, possibly with a strategic partner.

A few hundred systems of different type have been



Remote control unit

produced so far in DOK-ING. Satisfied clients and customers include governments, armies and governmental agencies, national mine action bodies and NGOs, commercial companies and institutions in more than 30 countries worldwide.

PRODUCT RANGE

DOK-ING machines are designed for one sole purpose - to protect human life in extreme conditions. The product range consists of 3 main areas that could benefit from using technology and specialized machines to work remotely in environments that are not suitable for humans to work in. Product range:

- A) Mine clearing equipment - from 1991
- B) Mining industry - commenced in late 2003
- C) Fire-fighting robotic vehicles - from 2006

MV-4 Mine Clearance System

The MV-4 Mine Clearance System is a tracked remote controlled machine designed to clear all types of anti-personnel (AP) mines. Because of its small dimensions and excellent maneuverability, it is suitable for demining of house yards, woods, forest paths, river banks and other types of terrain that are inaccessible to larger mine clearance systems. The operating tools for mine clearance and soil processing consist of different tools that are attached to the prime mover like: flail, roller, blade, gripper or tiller mounted in the front of the prime mover. The tools destroy even the smallest AP blast pressure mines and the most dangerous types of bouncing fragmentation mines. The machine is remotely controlled from an armored vehicle or from safe distance. The engine and vital components of the machine are protected by steel armor plates. Mine clearing is conducted by use of chained hammers and high rotational speed of the flail, the machine digs and powders the soils to a depth of 30 cm. The system's clearing capabilities have been demonstrated by CROMAC testing, SWEDEC testing and testing by the US military at Yuma Proving Ground and White Sands Missile Range. The flail rotor has a number of chained hammers to provide adequate, mathemati-



DOK-ING
DON'T SERVE A MINUTE TO GOD & MAN WITHOUT JOBS

cally calculated mine clearing and ability to destroy even the smallest of AP mines. The flail hammers are made of high-quality material, heat-treated and wear-resistant. AP mines are detonated or shattered. The machine is operational within temperature range of -5°C to +54°C. The system capabilities to work during high temperatures has been achieved with adequate oil and cooling fluid radiators. The construction of air installation with two-stage air filter (rough and fine) with additional cyclone pre-filter enables the system to work in extremely rough conditions. The system was tested in extremely dusty conditions at Yuma Proving Ground (desert conditions) by the US military. The system has been operated extensively in the Republic of Croatia in rain, snow, hail and dust without problems or damage. The system's dimensions, weight and lifting points ensure that it is transportable by means of plane (C130 Hercules, IL-76), helicopter (Chinook, Cougar, MI-26, MI-8), train, low loader and sea-vessel without any negative effects to its operational performance or lifetime. Light trucks are utilized for transportation of the machine over large distances.

MV-10 Double Tool Mine Clearance System

The MV-10 Double Tool Mine Clearance System is designed to clear various types of terrain containing antipersonnel (AP) mines, antitank (AT) mines, and unexploded ordnance (UXO). Because of its huge power and excellent clearance rate, it is suitable for mine clearance of large areas contaminated with all types of mines and UXO. The operating tools for digging and mine clearance consist of a flail tool attachment and tiller tool attachment, or a double flail tool. These are fixed in front of the system and are specifically designed to detonate or destroy the mines and UXO as the MV-10 moves forward. The MV-10 Double Tool Mine Clearance System was designed based on the development of the previous DOK-ING demining systems: MV-1, MV-2, MV-3, MV-4, and MV-20. All of DOK-ING's extensive mine clearance experience has been incorporated into the design of the MV-10 system. The MV-10 system weighs around 17 tons, with excellent cross country performance. It is controlled by a single operator through a remote control unit. This system provides the best possible protection for the operator. By ensuring the operator is well clear of the MV-10 or inside a protected vehicle, organizations can be cer-



MV-10



XLP Dozer



MVF-5



tain that should a mine (particularly anti-tank) be detonated, their people will be protected from even minor injuries or health issues that can arise from close proximity to the blast. Strict design and capability requirements were considered in developing the MV-10 platform based on demonstrated demining requirements, and not by adapting an existing construction machine, loader type, or forestry machine. Some of these specific requirements were:

- safe and effective clearance of antipersonnel and antitank mines,
- intensive use in the most severe working conditions,
- ability to work on soil with a hardness rating from the first to fourth category,
- ability to work in extremely high temperatures,
- high performance,
- modular design,
- lowest possible maintenance requirements,
- environmental protection.

XLP Dozer

The MVD XLP Dozer is designed as a very low profile remote controlled machine for multiple use such as; underground mining, the building and construction industry. The first dozer was developed in 2003 because the South African mining sector expressed the need for a small machine which could assist with the cleaning of slopes after blasting. The operating tool for digging and pushing in front of the machine was designed as a dozer blade, and later on a bucket as an additional option of the working tool. It is controlled by a single operator using a simple and convenient hand remote control unit. The XLP Dozer system weighs around 4 tons and the tests and evaluations in South African mines have shown that the machine is capable of handling 50 to 120 tons of ore per hour, which means that the cleaning productivity has been increased significantly and at the same time improving the safety of the workers. Strict requirements have been set in the development of this machine, such as: intensive use in the most severe working conditions; ability to work in

extremely high temperatures; high performance; modular design, lowest possible maintenance requirements, and environmental protection.

Because of its dimensions, very good maneuverability, high engine power, and low track-ground pressure, the MVD XLP Dozer can work year round in almost all conditions. Original design & construction based on extensive experience and study of user needs:

- sound technology based on an integral approach,
- high mobility and flexibility,
- safety of personnel,
- cost-effectiveness,
- excellent efficiency and productivity
- low operating and maintenance costs.

MVF-5, multifunctional fire fighting and crisis management vehicle

The MVF-5 has been designed as a unique multifunctional fire fighting vehicle designed to extinguish fires in life threatening and inaccessible areas. The vehicle is equipped with the latest firefighting technologies together with water and foam storage dispensers and containers. The areas of possible use include:

- oil refineries and chemical plants
- chemical and flammable materials storage
- transportation of flammable materials
- army depots
- nuclear power stations
- airports
- non accessible areas and zones

Further development of MVF-5 enlarged its capabilities and areas of usage, both in military and civil surroundings, but always in extreme conditions, hostile environments, fires, explosions, CBRNe threats.

Today, growing orientation towards rapid responders' capabilities, especially in the CBRNe/HAZMAT, C-IED and firefighting fields of application, enhanced the systems' key benefits:

- Systems can be operated from a safe distance of up to 1500 m using the remote control technology
- Open Architecture, ATP 45 Compliant Data Collection & Distribution
- Reconnaissance and situational awareness
- Detection and Identification (video, audio)
- Survey and marking
- Mitigation and product control
 - to remove hazards
 - different manipulators
 - image transfer
 - location information
 - different sensors depending on type of hazard
 - resource hauling task.

Đuro Đaković Aparati



Company ĐĐ Aparati Inc. operates in the group ĐURO ĐAKOVIĆ HOLDING Inc. the company was established in 1970, in the engineering field. The production of Đuro Đaković Aparati Inc. includes:



ADAN 300 K

- **BREATHING DEVICES** for breathing in the contaminated and oxygen poor area, for breathing under water, and breathing for medical purpose.
- **HIGH PRESSURE VALVES AND FITTINGS** for technical and medical pure gases, for working pressure of 300 bars.
- **MILITARY PROGRAM** - various types of scuba diving apparatus for special military tasks.

We design, manufacture, maintain and test our products. The factory has been certified in accordance with EN ISO 9001. Our technology capabilities are manufacturing single, small and medium assembly line production parts and products.

OXYGEN DEVICES - ADK RA

For use in ER and allows inhale of oxygen on demand through respiratory device and mask with possibility for assisted breathing. With addition of the system for reanimation and aspiration, it is possible to perform complete cardiac and pulmonic resuscitation.

Types of device

ADK
 ADK R
 ADK RA
 autonomy: 120 min
 weight: up to 15 kg

Contents of the set

oxygen cylinder 5 l, 200 bar
 reduction assembly with steam
 OXYGEN DEVICES - ADK MINI
 OXYGEN DEVICES - ADK RA
 OXYGEN DEVICES - ADK
 gauge, system for breathing on demand, mask for mouth-to-mouth breathing, mouth opener, airway (S,M,L), re-animation system (ADK R), aspiration system (ADK RA)

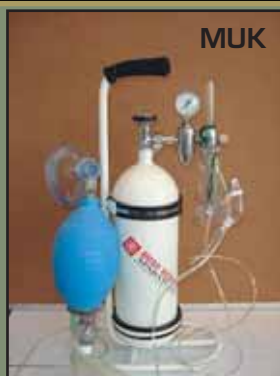
OXYGEN DEVICES - ADK MINI

Types of device

ADK mini
 ADK mini R
 autonomy: 40 min
 weight: up to 7 kg



ADK RA



MUK



MUK 10 RA

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www.dd-aparati.hr

The contents of the set

oxygen cylinder 2 l, 200 bar gauge, system for breathing on request, mask for mouth-to-mouth breathing, mouth opener, airway (S,M,L) reduction assembly with steam re-animation system (ADK mini R)

MOBILE DEVICES FOR OXYGEN THERAPY- MUK

Devices are used for therapy with medically clean, humidified oxygen in hospital or home conditions

It consists of oxygen dosage - DOV (dosage of oxygen 0-15 l/min) oxygen cylinder and carriage holder for the cylinder

Types of device regarding volume of cylinders

MUK 1,8 baby V 1,8 l
 MUK 3 V 3 l
 MUK 5 V 5 l
 MUK 10 V 10 l

Additional equipment

The resuscitation set is delivered with MUK 3 R, MUK 5 R and MUK 10 R

Aspiration set is delivered with MUK 5 RA and MUK 10 RA

SELF-CONTAINED RESPIRATORY APPARATUS ON COMPRESSED AIR ADA N 300 K

Cylinder volume 6,8 l
 Working pressure 300 bar
 Cylinder weight 3,6 kg
 Autonomy: 51 min

Apparatus is used for protection of respiratory ducts, face and eyes from surrounding atmosphere.

SCUBA DIVING APPARATUSES - AUTONOMIC DIVING OXYGEN DEVICE - ARAK

Max. diving depth	10 m
Breathing media: oxygen	99.5 %
Cylinder volume	1.8 l
Operating pressure	200 bar
Self-containing time	180 min
Mass	14.7 +/- 0.5 kg
Dimensions	360 x 400 x 150 mm
Dosage of oxygen	0.7- 1.1 l/min

This apparatus is designed for diving with completely closed breathing circle. It is suitable for special military tasks or easy diving tasks.



ARAK

Đuro Đaković Special Vehicles



“**Đ**URO ĐAKOVIĆ SPECIAL VEHICLES Ltd. (ĐURO ĐAKOVIĆ SPECIJALNA VOZILA d.d.) is Croatia's premium supplier of main battle tanks and combat vehicles, as well as the provider of full life cycle support and all levels maintenance for its product portfolio.

ĐURO ĐAKOVIĆ SPECIAL VEHICLES (further: DDSV), as the Original Equipment Manufacturer of Main Battle Tanks M-84 and Wheeled Armoured Vehicles Patria AMV 8x8, has a long successful history of providing military vehicles to the Republic of Croatia and significant international military customers. For that reason DDSV is declared and nominated as strategic partner of Croatian Ministry of Defence and Croatian Armed Forces, considered as Croatian centre of competence for design, production and maintenance of combat vehicles and defence equipment.

In addition to its defence program, DDSV produces railway cargo wagons for various types of goods as well as demining machines.

DDSV operates within ĐURO ĐAKOVIĆ Holding, one of the leading companies in the metal processing industry in Croatia with long tradition and strong reputation in the region as well as in the number of global markets.

The experience in production of battle tank, as the most complex product in category of battle vehicles, has confirmed capability of DDSV for dynamic interaction between own know-how and production potentials with other producers and research institutions,

and has established all necessary requirement for the new world of productivity and efficiency, for implementation of quality assurance system, and the final integration and testing of

the most complex systems, which all resulted in good product.

DDSV has significant experience and skills in:

- production of open-architecture combat vehicles adjusted to specific customer requests, including integration of weapon systems and related special mission equipment chosen by the customer and according to specific customer requests,
- full long term after-sales support during life circle of combat vehicles,
- maintenance, upgrading and modernization of the existing main battle tanks and other combat vehicles, which basically offers improvement as answer to mobility, fightability, survivability and communicability challenges of the existing hardware.

ĐURO ĐAKOVIĆ SPECIAL VEHICLES is the first company within the Republic of Croatia with Certificate ISO 9001 in the field of research, design, production and maintenance of special vehicles and military equipment and civil engineering machinery & steel structures. System of quality management is completely documented and corresponds to the requirements of the international norms ISO 9001 and ISO 14001.



ARMoured MODULAR VEHICLE PATRIA AMV 8x8

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www.ddsv.hr

Wheeled Armoured Modular Vehicle Patria AMV 8x8 is a multipurpose military vehicle, production of which is based on business cooperation between DDSV and PATRIA Company, realized through the transfer of technology.

Vehicle features maximal capacity of payload, simultaneous integration of the high level armour with high level of mine protection and incorporation of heavy weapon platform - without jeopardizing of vehicle mobility.

The basic feature of the vehicle Patria AMV 8x8 is its modular design, which enables installation of equipment for various missions

on the same vehicle platform. Typical basic configurations of the vehicle include:

- AIFV-12.7, with remote weapon station 12,7 mm
- AIFV-30, Armoured Infantry Fighting Vehicle, armed with 30 mm automatic gun
- AICV, Armoured Infantry Command Vehicle
- AAV, Armoured Ambulance Vehicle
- ARRV, Armoured Repair & Recovery Vehicle
- ATGMV, Anti-Tank Guided Missile Vehicle

Strategic cooperation with global leaders PATRIA and KONGSBERG, together with performed technology transfer, enables DDSV to act as a supplier of fully equipped armoured vehicles in separately agreed future programs.



The latest addition to the available configurations is the unbeatable concept - a Croatian version of Patria AMV 8x8 vehicle equipped with Kongsberg's PROTECTOR Medium Calibre Remote Weapon Station (MCT 30). This stabilized, highly precise MCT-30, with its high-end sensor solutions and servo systems is a state-of-art remote turret system. The medium calibre automatic cannon and coaxial machine gun provides the necessary tools to engage in a wide

spectrum of situations. The availability of having two ammunition types simultaneously gives the flexibility to configure the system to engage both soft and hard targets beyond 3,000 meters. The optional commander's sight independent Weapon Station gives the commander an independent surveillance and lethal/non-lethal engagement capability and enables the hunter/killer capability.





T-72/M-84 MAIN BATTLE TANK MODERNISATION PROGRAM

Development, production and/or integration of new, NATO interoperable systems of new generation designed for enhancement of the existing M-84/T-72 tanks and/or integration of the new tank has been started within the framework of the Project DEGMAN, pursuant to Contract between company ĐURO ĐAKOVIĆ SPECIAL VEHICLES and Croatian Ministry of Defence.

The aim of the project is "...through digitalization and interconnection of the key MBT systems create hunter-killer capability and ensure compatibility and interoperability between new and enhanced tanks". The term "tank destroyer" defines Fire-on-the-move & Hunter-Killer tank capable to aim and fire while on the move under all terrain conditions (dust, mud...), day and night and all diverse climatic conditions (rain, fog..).

Accordingly, the new or enhanced tank has significantly better characteristics than its basic version (M-84). Besides the above specified this project has been designed on the principle of the "open architecture", which is the fundamental precondition for

application in upgrading and the new production, but also enables fulfilment of the customers' requirements (i.e. diverse communication systems, different protection levels, etc.).

Specificity of the initial requirements referred to compatibility of new systems (and with it upgrading program) with tank T-72, which potentially opens wide market for modernization regarding number of countries where they are in use.

Philosophy of the open architecture, as a capital T-72/M-84 modernisation program, enables full combining autonomy. Final tank structure could be defined according to specific user requests, dependable of compatibility, interoperability, operational-tactical, climatic and other requests. Selection between several options, mutually different in sophistication, technical characteristics and parameters, brings out a new and recognizable approach. All idea is concentrated in 5 keywords: **Fire power enhancement, Mobility upgrading, Protection improvements, Communicability, Factory support.**



T-72/M-84 Modernisation package includes, but not limited to:

- Upgraded Ballistic Fire-Control System
- Thermal Imaging System (TIS)
- All-Electric turret and gun drive
- New VHF-HF radios
- Digital Intercom System with Mobile Terminals
- Add-on (or “appliqué”) armor and explosive reactive armor (ERA)
- New Generation Laser warning System (LIRD) connected with Smoke Grenades Launchers
- NATO compatible NBC warfare protection system
- Fire Extinguishing and Anti Explosion System
- Hull Management System
- Automatic System of Engine and Transmission Protection
- Upgraded Tracks - NATO Tracks
- New Batteries and Battery Charger (internal and external)
- New Heating and Cooling System

Specific Requirements are:

- “TANK DESTROYER” (Fire-on-the-move & Hunter-Killer)
- ATAC - Commander’s Battle station which enables:
- Panoramic observation

- Daylight video channel and thermal imaging system
- Eye safe Laser Rangefinder
- Commander-Take-over System (main gun fire control)
- Battlefield Management System
- Remote aiming of the external 12,7 mm machine gun
- Enhanced anti-mine protection
- SONG-84: Integrated System for Training and Fire Control
- Enhanced reliability (MTBF & MTTR)
- NATO Inter-operability
- Power-pack

Additionally, integrated equipment enables tank commander to carry out the following tasks:

- High-quality panoramic observation, location, acquisition and engagement of targets under all operational conditions using thermal or daylight gunner’s primary sight
- Taking over of ALL control and aiming functions of the main gun
- Remote Control and Aiming With External Machine Gun 12,7 mm
- BINSO: Battlefield Management System (C3I)
- Control of ALL MBT parameters and automatic data submittal to the higher command post

DEMINING MACHINES



Highly efficient, remotely controlled demining machines, result of company's own development:

- Own design and production
- Fully radio remote controlled
- Certified by the Croatian Mine Action Centre

- Tested against any kind of Anti Personnel & Anti Tank Mines
- Useful for every type of soil and vegetation
- Designed for extreme desert and tropical conditions
- Operates at altitudes above 2500 m.

TECHNICAL DATA

Dimensions (LxWxH)	7 100 x 3 450 x 2 300 mm
Width, in transport position	2 500 mm
Height, (transport position)	3 150 mm
Track gauge	2 300 mm
Surface pressure	0.62 kg/cm ²
Total weight	21.5 t
Power	380 kW @ 1 800 rpm
Fuel capacity	800 l
Working tool	rotating flail
Number of chains	36 pieces
Speed of rotation	0 to 600 rpm
Traveling speed	up to 5 km/h
Working speed	0.3 to 1.2 km/h
Maximal gradient	35 °
Maximal side slope	25 °
Turning radius	pivot on the spot
Productivity	3 000 m ² /h
Digging Depth	300 mm
Types of mines	all anti-personnel (AP) and anti-tank (AT) mines



Enavigo Ltd

Enavigo builds high-quality wooden boats with traditional lines, but uses the modern strip plank and epoxy resin (WEST) method of construction. This system of laminating, gluing and protecting the wood results in a composite material that gives the boat extraordinary strength and stiffness. The Enavigo Cutter offers both seaworthiness and security.

Using modern equipment and a large production facility we are able to systematically control all conditions, a vital part of the production process. Quality control is something we take very seriously and every part of each boat is appropriately recorded and measured during the production process. This method allows us to retain high standards even in a labor-intensive environment.

Our mission is to produce a powerful, high-spec and traditionally designed boat that is seaworthy and has a striking visual appeal.

Our vision is to reintroduce wooden sailing boats to modern man and continue the age-old tradition of sailing with majesty - and practicality.

ENAVIGO K850

Enavigo K850 is a training boat for basic training of cadets and sailors in traditional naval skills including rowing and sailing.

Primarily designated for naval schools and institutions for naval personnel education (at all levels):

- Rowing
- Rigging and set up
- Sailing
- Seamanship (knots, rescuing at sea, use of safety equipment...)
- Physical fitness, self motivation, discipline, leadership and teamwork
- Rowing regattas

Practicing these activities gives essential training in seamanship and nautical skills, competence on the water and personal growth.

Main Characteristics:

- LOA: 9,00 m
- Hull length: 8,50 m
- Length at waterline: 8,30 m
- Beam (max): 2,60 m
- Light displacement: 1,6 t
- Heavy displacement: 3,0 t
- Draft: 0,60 m
- Sails area: 27 m²
- Design category: D (ISO 12217-1)
- Number of crew members (max): 15



Safety

Enavigo K850 has passed the "Capsize Recovery Test" according to EN 12217-2.

The crew members can right the vessel from a completely inverted capsized (180 degrees) without any external assistance. (in normal working load condition with masts and sails raised!).

The vessel is built in buoyancy rendering it unsinkable.

Swamped or inverted, the vessel has sufficient reserve buoyancy to support all the crew members (15 people) together with their equipment.

Construction

Hull: Oregon Pine planking (20x30mm), 2 layers (2,5mm) of mahogany veneer, 400 g/m² glass roving with epoxy (on both exterior and interior side).

Hull paint: AWL Grip System.

The hull sides are connected by transverse benches for crew members.

Masts are made from laminated pine.



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Ericsson - Nikola Tesla



TP220 Field Telephone



Ericsson QuickLink

Ericsson - Nikola Tesla Special Systems are focused on customers in defence/security area and others usually requiring non-standard communication solutions, training and support. Special Systems are also involved in research and development, production and testing.

To fulfill customer requirements and solutions at strategic and tactical levels, Special Systems have close co-operation with other companies inside the Ericsson Corporation and Kongsberg Defence Communications.

Solutions for strategic levels are based on well-known products such as MX-ONE and MiniLink and selected third-party LAN and WAN products. The solutions for tactical levels are based on EriTac - Integrated Tactical Communications System.

ERITAC

EriTac System consists of the following components:

- Tactical Multiprotocol Switches
- Tactical Network Management System
- Radio Transmission Family
- Tactical Multi-purpose Line Terminating Unit
- Multiple Bulk Encryption System
- IP Encryption Unit
- Secure Mobile Phone
- Commander/Operators Multi-LineTerminal
- Digital Access Points
- Field phones
- Digital Tactical VHF Radios

**Contact:****Ericsson Nikola Tesla d.d.****Special Systems****Krapinska 45, P.O.Box 93****HR-10002 Zagreb, Croatia****tel: 385 1 365 45 06****fax: 385 1 365 45 06****e-mail: special.systems@etk.ericsson.se****www.ericsson.hr****SOLUTIONS FOR NATIONAL SECURITY AND PUBLIC SAFETY INCLUDE:****Emergency Response System - CoordCom Call and Dispatch System****CoordCom:**

- Is a flexible end-to-end solution that integrates system solutions for telephone, radio and data communications for customers where 24/7 accessibility and reliability are essential.
- Handles all types of operations, that is national, regional and district levels, and distributes traffic according to pre-configured patterns.
- Enables specialists over a wide area to collaborate, communicate and share information. Alerts and actions can be directed to and shared by specialists in different locations. Supports interoperability with any kind of communications system.
- Is an efficient system for Call Taking and Dispatching with precise decision support. The high level of configurability provided enables conformity with any workflow process.
- Makes it possible to communicate incident information to all involved in true real time. The system helps the staff make the right decisions in every situation.
- The high availability in the Emergency Response solution is based on the concept of multiple Control Rooms with Operator Positions and Multiple System Sites where HW and storage are physically located.

Ericsson Border Control

Ericsson's cutting-edge and customizable solution is based on a detailed risk analysis to ensure the unique border and area security needs of each customer are addressed. This provides the basis for interpreting information obtained through leading-edge technology: radar, line sensors, point sensors, infra-red and thermal sensors, alongside visual-range cam-

eras, used to detect, classify and intercept those crossing the border outside designated locations.

Data and information fusion functionality manages and interprets the incoming data into a common operational picture. This information can be shared accurately between agencies.

Public Safety LTE

Public Safety LTE is a turnkey solution featuring mobile broadband network infrastructure as well as applications and devices for mission-critical public safety operations. Ericsson provides the required LTE network components tuned to specific public safety needs as well as other typical network components and services.

Features:

- High throughput, low latency, fully mobile IP connectivity to support rich multi-media collaborative content & applications
- Pre-emptive and Dynamic Access & Priority control
- End-to-end security & Interoperability
- Ruggedized user equipment with extended battery life
- 24/7 Availability & Resilience

Cryptify Call

Cryptify Call is a NATO certified system that provides robust encryption and authentication of voice and data communication using standard telecommunications infrastructure. It allows for an organization to have confidential information exchanged between subscribers in a centrally managed closed user group, as a complement to normal mobile telecommunication.

Cryptify Call makes it possible to use commercial terminals and telecom networks for sensitive communication by adding security features.

Faculty of Electrical Engineering and Computing

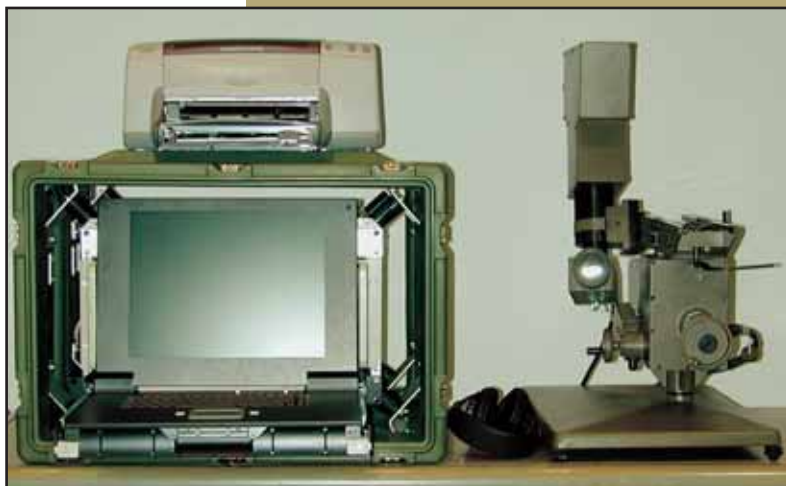
Faculty of Electrical Engineering and Computing is an educational, research and scientific institution. The Faculty is a leading research institution and undertakes research at the highest levels of international standing. The Faculty offers a broad spectrum of services to business and industry, from research and consultancy to conference facilities, training and graduate recruitment.

- Combat-proven in Croatian Armed Forces since 1993.
- Man-in-the-loop training.
- Individual & team training.
- Possibility to interconnect in the network of similar simulators in DIS/HLA environment.

SIMTREND

The SIMTREND digital simulators are intended for training of new AT gunners in the firing AT-3 (SAGGER) antitank missile system of the first generation, and AT-4, AT-5 and AT-7 (SPIGOT, SPANDREL and SAXHORN) antitank missile systems of the second generation.

The SIMTREND simulators are based on a high performance multiprocessor PC-based system that provides facilities for a complex and highly realistic simulation of the real AT systems operating conditions.



SIMTREND Fagot



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Technical specifications

- Computer: PC Pentium IV in industrial housing
- I/O hardware: Special design
- Digital Signal Processor board: TI C3x series
- Graphics board: 3D OpenGL accelerator
- Instructor's display: LCD SVGA color
- Gunner's display: Micro LCD SVGA color
- Firing-post model: Replica of the real launcher
- Commercial Software: Windows 2000, OpenGL
- Application Software: Special software for SIMTREND
- Battlefield scenarios: At least 15 scenarios
- Scenarios landscape: Photographic imagery and artificial 3D scene
- Counter-measurement: Simulates IR jamming
- 3D targets: At least 10 different type of targets
- Sounds: Simulated different noise background
- Power supply: City network, 220V 50 Hz, 350W via UPS
- Operating temperature range: 50 - 450 C
- Humidity: 10% - 80%
- MTBF: At least 1000 hours

SIMIG 2000

Simulator for Man-Portable Air Defence System "Igla"

SIMIG 2000 is an indoor simulator for Man-Portable Air Defence System (MANPADS) 9K310 "Igla" (SA-16 Gimlet), which simultaneously supports technical and tactical proficiency training, as well as operator's mental readiness evaluation. The simulator purpose is training of novice operators, as well as maintaining the proficiency of the professional ones. The accurate simulation of "Igla" subsystems, including the 6DOF missile dynamics model and missile seeker, facilitates highly valuable training. SIMIG 2000 is based on a high-performance multi-processor computer system, which provides real-time simulation of sophisticated missile model and multiple target dynamics, simultaneously visualizing the virtual training environment.



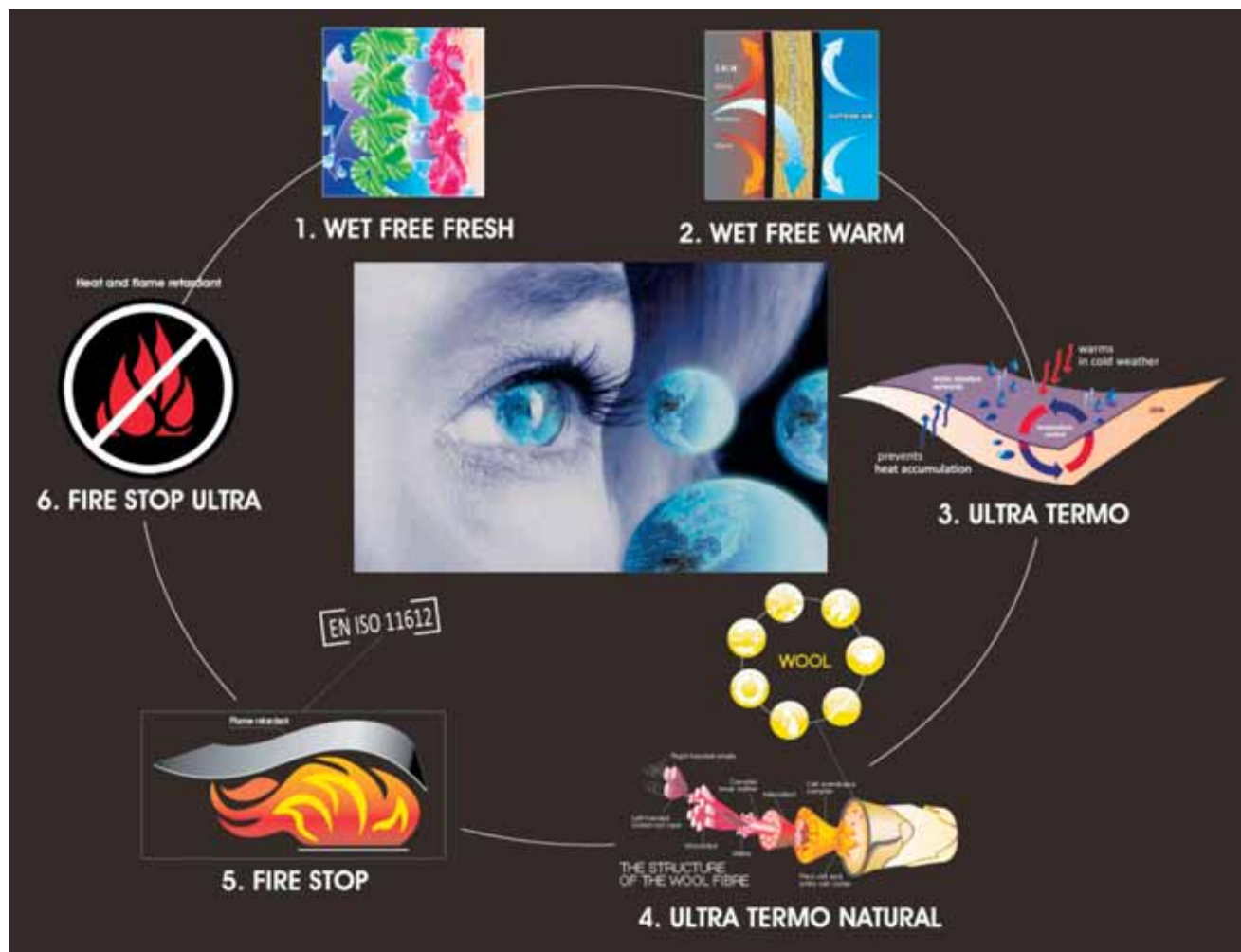
SIMIG 2000

The main features of the simulator are: 3D environment for 360° horizontal and ±90° vertical FOV; Image displayed on Head Mounted Display, 45° diagonal FOV; Psychophysiological stress indicator monitoring; Control of target trajectory parameters; IR interference simulation: sun, cloud reflections, and flares; Different types of targets, like fighter aircraft, transport aircraft, helicopter, cruising missile etc.; Possible incorporation in a DIS/HLA networked environment.

The SIMIG 2000 simulator operates in the user-friendly Windows XP environment. Each operating mode of the simulator can be started by clicking an icon in the main window. By doing so the instructor can start the following modes: scenario editor, combat training, training replay, diagnostics, database, report generation, sound effects setup, and help.







Galeb

C established in 1951. in Omiš with over 60 years of experience in garment manufacturing as an important part of the regional textile sector, Galeb manages to maintain the leading position in Croatian textile industry.

Quality is our recognition and the Galeb brand is a synonym for underwear for many generations with three own product brands - Galeb, Adriatic and GLB. Our production is vertically integrated: from knitting, dyeing and finishing to cutting and sewing. In the selection of raw materials we traditionally cooperate with renowned suppliers of European origin in order to deliver the final product that meets the highest quality and environmental standards. What makes our technology specific is that most of our materials can be produced with machines



of different diameter that match the clothing size (underwear without side seams). As a confirmation of high ecological standards of raw materials used in the manufacturing process, knitwear and final products, Galeb is a proud holder of the **Oeko-Tex Standard 100** certificate, **GOTS** (Global Organic Textile Standard) certificate, the **Best Buy Award** medal and **Croatian Quality** label. In terms of quality management, Galeb is implementing **ISO standards** (ISO 9001, ISO 14001, ISO 50001, OHSAS 18001), as well as **20 Keys** methodo-



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logy for integration of top manufacturing improvement methods into a coordinated system for continuous improvement in involvement, quality and productivity.

FUNCTIONAL UNDERWEAR by Galeb

An important segment in our production is Functional Underwear - the result of our research and development using the existing technology, capacity and knowledge. These new and innovative fabrics generating synergy with the benefits of natural fibers (fine merino wool, cotton) in combination with synthetic fibers (polypropylene, polyester, polyamide, aramid, viscose) helping skin to perform normally under extreme circumstances.

The future is here, determined by technological innovations in development of specific fabrics that can serve new functional purposes well beyond their traditional roles.

Functional Underwear is designed for people who work in particularly difficult conditions such as firemen, military, police and all those exposed to low temperatures or extreme variations in temperature. There are three areas of expertise in our Functional Underwear products range: **moisture management**, **thermoregulation** and **flame resistance**. According to these properties, there are three categories of Functional Underwear products:

- **Ultra Termo & Ultra Termo Natural** - improved thermoregulation properties with protection against external influences.
- **Wet-Free Warm & Wet-Free Fresh** - improved body moisture management
- **Fire Stop & Fire Stop Ultra** - improved protection from fire and heat even in extreme conditions (FR underwear).

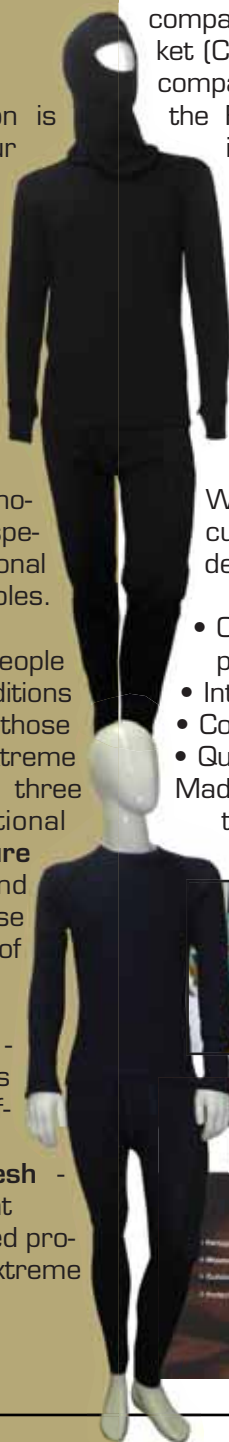
REFERENCES

Galeb successfully cooperates with different companies and institutions at the national market (Croatian army and police, the national oil company...) with significant share of sales of the Functional Underwear products to the international companies and institutions at the European, Asian and African market (Slovenia, Russia, France, Azerbaijan, Izrael, Iraq, Kuwait...).

Galeb was proud to exhibit the Functional Underwear products on both national and international exhibitions such as Defence and Security Exhibition EUROSATORY and MILIPOL trade show in Paris.

With the capacity and knowledge to customize our product to your specific demands, contact us with confidence.

- Over 60 years of tradition in knitwear production
 - Integrated production and logistic cycles
 - Continuous innovation and development
 - Quality approved by world-class certificates
- Made in EU - better delivery and service terms.



FUNCTIONAL UNDERWEAR

FIRE STOP

- Retarded flame resistance
- Moisture absorption along with breathability
- Outstanding comfort
- Protected body against heat and the same time is breathable

> EN ISO 11612
> EN 1149-5 (3)
> NFPA 1971



FUNCTIONAL UNDERWEAR

WET FREE FRESH

- > Natural cooling
- > Reduces skin moisture when sweating
- > Outstanding moisture management
- > Inhibits bacteria growth



WET FREE WARM

- > Transfers moisture
- > Keeps the warmth
- > Maintains optimum temperature
- > Dries considerably faster than comparable cotton materials



ULTRA TERMO

- > Excellent thermoregulation properties
- > Outstanding moisture management
- > Inhibits bacteria growth
- > Reduces skin moisture when sweating





Gas Turbine Works

The Gas Turbine Works was founded in 1975 as manufacturer of rotating and stator components of jet engines for the needs of the aviation.



It has started its work by producing turbine discs, ring labyrinth, turbine blades and blade carrier rings of compressor stator for the jet engine VIPER 632-41 and compressor discs and space rings for engine ORPHEUS 80000, in accordance with the license of Rolls Royce Ltd. The production was approved under the supervision of the experts of Rolls Royce Ltd. In 1981 the factory started the production of precision forgings of compressor stator and rotor blades for engine VIPER 632-41, and precision forgings of compressor stator and rotor blades for engine ORPHEUS 80000 in accordance with the technology of the British company HDAF.

In 1982 begins the production of all rotating parts of the compressor rotor for the engine VIPER 632-41 and machining of precision blades forging of compressor stator and rotor for engines VIPER 632-41 and ORPHEUS 80000 in accordance with the technology of Rolls Royce Ltd and under the supervision of its experts.



In 1982 begins production of centrifugal compressor for precompression of the diesel engine V46-6 for armored vehicle drive.

In 1985, based on its own technology, the factory begins with the production of parts of rotor compressor for the helicopter gas turbine TV2 for helicopter Mi8 drive, and blades and discs of the helicopter gas turbine Astazous XIV for helicopter Gazela drive.

In 1986 the factory started the production of titanium parts for the supersonic jet engine RB 199. In 1991 begins the production of compressor rotor for the gas turbine NK 12ST, developed from the aviation gas turbine NK 12MT which is used to power the aircraft Tu 95, Tu 114, AN 22 and so on.

In 1996 The Gas Turbine Works begins with production of parts for jet engines CMF 56, for the well known manufacturer of aircraft engines GEAE and SNECMA, which are built in to Airbus type aircrafts.

In addition to the above mentioned, The Gas Turbine Works manufactures other products of complex geometric shape that meet high technical, metallurgical and dimensional requirements and therefore represents the ideal choice for all types of machining. The factory is 100% private property.



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PRODUCTION PROGRAMME

Production of rotating components and assemblies of jet engines and gas turbines. Within this, precision forging of compressor blades from steel, Al, Ni and Ti alloys is especially emphasized. For the production of above mentioned components, our firm is equipped with modern equipment for machining, heat treatments, equipment for metal coating, and equipment for the inspection and testing, where chemical-metallurgical laboratory is included.

PRODUCTION CAPACITIES

- **MACHINING**
 - Universal NC and CNC turning machines
 - Vertical NC broaching machines
 - Profile-straight, circle and CNC jig grinding machines
 - Drilling and jig drilling machines
 - Universal, CNC and 5-axes CNC milling machines
- **PRECISE FORGING**
 - Screw presses up to 10000 kN
 - Hydraulic press
 - Eccentric press
 - Chamber and rotating furnaces
- **NON-CONVENTIONAL TREATMENTS**
 - Wire erosion
 - Spark erosion
- **HEAT TREATMENT**
 - Automatic hardening in oil
 - Annealing
 - Other types of heat treatment
- **PROCESS TREATMENT**
 - Line for manganese phosphating
 - Line for matt nickel plating
 - Line for sulphur and chrome anodization
 - Chemical oxidation
 - Line for etching
 - Passivation

• SURFACE PROTECTION

Equipment for coloring and varnishing
 Equipment for control of cover thickness

QUALITY CONTROL

- **DIMENSIONAL CONTROL**
 - CMM
 - Equipment for control of form and position tolerances
 - Devices for surface roughness measuring
 - Profile projectors
 - Special equipment for control of turbine blades
- **MECHANICAL-METALLURGICAL CONTROL**
 - Devices for testing strength
 - Devices for testing hardness
 - Devices for testing toughness
 - Metallurgical microscope
- **EQUIPMENT FOR NON-DESTRUCTIVE TESTING**
 - FPI
 - MPI
- **EQUIPMENT FOR TESTING PROTECTION COATINGS**
 - Devices for inspection of colors nad lacquers coating

REFERENCES:

- GENERAL ELECTRIC COMPANY, USA
- ROLLS-ROYCE, GREAT BRITAIN
- TEXTRON, USA
- SNECMA, FRANCE
- HOLSET, GERMANY
- GAZPROM, RUSSIA
- TURBOMECA, FRANCE
- THYSSEN UMFORMTECHNIK, GERMANY
- HISPANO SUIZA, FRANCE
- FOPAC MASCHINEBAU, GERMANY
- SATURN, RUSSIA
- SINAPTEC, FRANCE



Geofoto

Geofoto is a Croatian company that offers photogrammetric, geoinformation, cartographic and cadastral services. The company began operating on September 1st, 1993 in Zagreb and its headquarters is in Zagreb.

The main activities of Geofoto encompass aerial survey, digital photogrammetry, cadastral survey, production of topographic and cadastral databases, design and creation of geoinformation systems and solutions and digital cartography. Geofoto services are recognized through high quality, honest and transparent relationship with the client, strong IT structure and many years of international experience. For implemented quality control system Geofoto has the Certificate ISO 9001:2008. Spatial data and information are our core business so we place great focus on clients' database security and protection. Our own information system, space and personnel have been certified to handle classified data. The Facility Security Clearance issued by the Office of the National Security Council enables the company to participate in national, NATO and EU classified tenders and thus strengthen the company's position on domestic and international markets. The company and some of its experts are mem-

bers of many organizations and associations such as Croatian Geodetic Society, Croatian Cartographic Society, Croatian Chamber of Chartered Geodetic Engineers, Croatian Standards Institute, Croatian Academy of Sciences and Arts, EUROGI (European Umbrella Organization for Geographic Information), Spatial Data Interest Community, EU INSPIRE Directive, etc.

The company currently employs 154 people. Our employees work on the state-of-the-art equipment and continuously attend different seminars and courses, publish papers and participate at numerous conferences around the world.

MILITARY GEOINFORMATION SYSTEMS

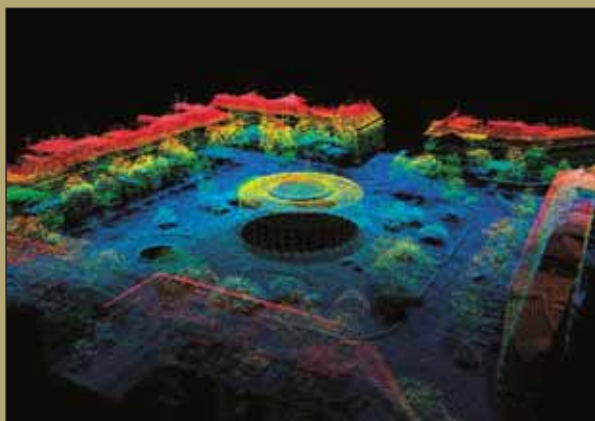
Military Geoinformation Systems are critical technology in the work of defence and intelligence community. It is a flawless digital map of a certain area which can also be web-based. Users of these systems have access to spatial and environmental data collected, stored and displayed in accordance with NATO standards. They can use them at their workplaces by means of advanced technologies. Geofoto has developed a conceptual solution that is made possible by precise information, flexible communications and dynamic situation photos created for the military. Databases are created in the form of basic tactical military topographic maps in a 1:50 000 scale and JOG-G (Joint Operations Graphic - ground) tactical military maps in a 1: 250 000 scale.



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DIGITAL ORTOPHOTO

Geofoto specializes in production of digital orthophoto from aerial photogrammetric images and satellite images. The digital orthophoto is a geometrically corrected photograph in digital format, produced as a result of computer transformation of digital photographs from the central into the orthogonal projection. Generally, the orthophoto is made within shorter period of time than vector maps and it is a couple of times cheaper. The most common scales of analogous orthophotos are 1:5000, 1:2000 and 1:1000. In addition, lately there has been an increase in the demand for True ortho, in which built objects are not projected on the ground, but in the orthorectification



process is considered height data. This way, objects are presented spatially in a correct manner: object roofs are right above the foundations, without display of the side walls or overlap of surrounding areas.

LIDAR DATA

LiDAR technology enables collecting altitude data of the terrain, buildings, vegetation and other spatial layers in a swift, accurate and automatized manner. Data acquired through the LiDAR system is especially useful when identifying targets such as tanks and aircraft. Geofoto recently purchased one of the most modern LiDAR systems which, mounted on an

aircraft, uses close range infrared part of electromagnetic spectrum for active data collecting in daylight or during the night, in a shadow, but also in circumstances of lower visibility (e.g., under the clouds). Typical 3D visualizations, including enhanced DTM with buildings and vegetation can be made within a few hours.

3D TERRAIN AND CITY MODELS

Geofoto makes different 3D data. They are obtained from aerial photogrammetric images. Spatial resolution of imaging can be up to 8 cm which enables highly detailed and precise level of detail. On the basis of such images and using photogrammetric mapping on specific workstations, 3D data is created of the existing objects and terrain. After topographic processing, the data become a genuine and reliable source of information in space. 3D data has many uses and the military most often uses them for mission and exercise planning and command, aerial reconnaissance, logistic planning and enemy and friendly forces tracking.

SCALE MODELS

Once a 3D model has been created the data is materialized from the digital form using a special 3D printout technology and scale models of different scales are made. The scale model is composed of a tablet mosaic built on a special base and it is an irreplaceable means of communication and spatial display.

DIGITIZATION CENTRE

Geofoto delivers complete solutions for scanning and vectorization of large size master plans and maps. The kit contains a large format scanner, software used for conversion of raster files into a vector format (lines and objects) which has a possibility of pattern recognition, an application used for data transformation into UTM projection and different format conversion. In addition, the company provides system application services, training and system maintenance.



The HEMCO Ltd. is a protective garments and equipment manufacturer, opened in 1992 from the family Mihalj's own investment.

The investments totalled 897 097 EUR (6,8 mil kuna) allocated for manufacturing facility (measuring 1200 m²) and 131 926 EUR (1 mil kuna) for machines and equipment. The income in 2010 amounted to 484 168 EUR (36.7 mil kuna), with 356 200 EUR (2,7 mil kuna) net profit, exceeding the 2009 figures by 88 %. The management policy and planning led to an increase of 20% new personnel. Today the firm has 157 employees and manufactures 300 000 protective garment items in over 500 different models. The HEMCO gives due attention to management enhancement, customer feedback, quality of its products and delivery terms. This was rewarded through the quality Certificate ISO 9100 and ISO 14001:2009. Furthermore, HEMCO was the winner of the Ministry of the Economy's award for the most successful innovating entrepreneur of the year 2011 and in the previous year of the "Zlatna kuna" award as the best craftsmen in Croatia.

HEMCO's mission and development vision

Our business policy rests on continuous and sustainable development and growth, continuous investing into material and human resources potential alike. HEMCO is a dynamic firm, determined to produce comfortable and handy solutions for our clients' needs. Quality is one of the strategic guidelines of our development, as endorsed by the certificates we have won. Continuous technological investments serve us to maintain high level of the products and services, and the continuous upgrading helps us strengthen our leading position in the region and grow into an important business subject in the global market. HEMCO's strategic goals include increased manufacturing for export, expanding the partner network, developing the controlling mechanisms, continuous education of our employees and sharing business success with our customers, providers and employees.

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HEMCO

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www.hemco.hr

Why choose HEMCO?

The protectivity, functionality and visuality of HEMCO products meet the demands placed by the market, and their quality and safety properties at the same time fulfill the trust of customers. All products have been manufactured from high-quality fabrics which are under permanent control of authorised quality controlling institutions, in compliance with the CE (C) norms, and also with the HRN and EU-prescribed norms on working clothes manufacturing. HEMCO is a firm capable of offering its clients complete and solid service at any time and from any segment of its business and respecting the term of delivery.

Co-operation with firms and institutions

HEMCO is open for co-operation and new ideas and is working constantly on continuous upgrading of manufacturing and of the products. The years-long co-operation with the Textile Technology Faculty of the Zagreb University has been intensified by working on the project FP7-REGPOT-2008-1-229801: TPot, led by the Professor S. Bischof Vukušić. HEMCO's representatives take active participation in workshops organised to convey the expertise to small and medium-sized companies (e.g. the "Innovation Management Workshop") One of the activities of the project is small and medium-sized companies' education and venturing into EU research and development projects. HEMCO displayed its profile and readiness for participation in international projects in the web-portal of the Textile Scientific and Research Centre ([http:// ts-rc.eu/](http://ts-rc.eu/)). Co-operation with internationally renowned materiel manufacturers has become a guarantee of the products quality. HEMCO's products are made of high-quality materials of branded market names and product quality marks.



Camouflage uniform



Pilot overalls



Pilot jacket



Multi-purpose overalls



Special underwear

HS Produkt

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HS Produkt is a company that manufactures pistols and rifles and is one of the best examples of how Croatian defence industry can largely contribute to the development of the economy, especially in the case of companies that manufacture military equipment and arms.

The company began with the workmanship and production of pistols in 1991, at the time when Croatia was in the grip of war, with an insufficient number of machines and expert labour force. Yet, they managed to produce very quickly the first Croatian pistol PHP. At the very beginning, the sole buyer of PHP was the Croatian Ministry of Defence. Since they were buying their product and provided them with expert help, the Croatian Ministry of Defence helped them develop and upgrade production. Very quickly, by 1995, they produced the pistol HS 95. According to its features, their second pistol was already competitive as compared to other pistols in the world's market. They dominate the world's market with pistol HS 2000, especially the most demanding American one. The American company SPRINGFIELD ARMORY, one of the oldest and most famous American manufacturers of armament was the first to recognize the true quality of that pistol. The long-term contract on cooperation was signed in 2001



and the company Springfield Armory marketed the pistol HS 2000 under the name Springfield XD-9 (XD - Extreme Duty) in calibers 9 mm Para, 40 S&W, .357 SIG, 45 G.A.P and 45 A.C.P. In this way the Croatian manufacturer that until then had been almost unknown, has become world-famed and their annual production and sale presently exceeds the production of the world's biggest manufacturers of pistols. The real value of the pistols produced by HS are awards by NRA (National Rifle Association) for the best pistols in U.S.A. in 2003., 2006., 2009. and 2013. as well as awards by magazines such as GUNS & AMMO, American Handgunner and Guns. Another proof of the quality of the HS products is the assignment of the NSN (NATO Stock Number - NATO code number) which gives the HS pistols an equal status in the system of weapons used by the NATO member countries.

Today, HS Produkt is a modern factory with more than 1.700 employees, which use the most advanced technology in small arms production and one of the biggest factories producing guns in the world. The most recent product designed by HS Produkt is the VHS assault rifle, a 5.56x45 mm NATO bullpup select-fire weapon. The development of the rifle was carried out following the request of the Croatian Army and their demand for a new infantry rifle to update individual equipment. HS Produkt is one of the world's leading manufacturers of small arms which, with its continual innovations in technology and production as well as with top-quality new products, has a prominent position in the world market.

Special features:

Trigger safety, Grip safety, Firing pin block (drop) safety, Loaded chamber indicator, Firing pin status indicator, Ambidextrous magazine release, Picatinny Accessories Rail.

Sight:

3 dot system.
Front - blade, dovetail.
Rear - square notch, dovetail.
Drift adjustable and replaceable.
Fiber Optic and Tritium sights available.

HS-9 | HS-40 | HS-357 SIG | HS-45 ACP

Model	HS-9	HS-40	HS-357 SIG	HS-45 ACP
Caliber	9 x 19 mm Para	40 S&W	357 SIG	45 ACP
Weight (empty)	705 g	760 g	735 g	750 g
Magazine capacity	16 rounds 10 rounds	12 rounds 10 rounds	12 rounds 10 rounds	13 rounds 10 rounds
Magazine weight (empty)	85 g	85 g	88 g	99 g
Magazine weight (full)	280 g (full 16 rounds)	290 g (full 12 rounds)	260 g (full 12 rounds)	370 g (full 12 rounds)
Length (overall)	180 mm	180 mm	180 mm	183 mm
Barrel length	102.5 mm	102.5 mm	102.5 mm	102.5 mm
Height	140 mm	140 mm	140 mm	144 mm

Operation: Short recoil, locked breech mechanism, self loading, safety locked action.
Frame: Improved polymer with oversized heat treated steel side rails.



Advanced engineering and ergonomics, state of the art safety solutions and flawless reliability are some of the qualities that make the HS pistol a truly revolutionary handgun. Built in Croatia's advanced HS Produkt production facility, this modern design is made to exacting tolerances using 21st century CNC machines and CAD-CAM systems. The resulting handgun is what independent law enforcement evaluators are calling a "World Class Pistol" equaling or exceeding the best available anywhere. The HS pistol incorporates 4 redundant safeties, one in the grip, a trigger safety, a firing pin (drop) safety, and an out of battery safety.

VHS assault rifle

Assault rifle VHS-K2, cal 5.56x45 mm



Technical specification

1	Caliber:	5.56x45 mm
2	Ammunition:	5.56x45 mm; SS109
3	Barrel length:	410 mm
4	Velocity of firing:	830±100 rd./min.
5	Muzzle velocity	880±30 m/sec
6	Length (overall):	710 mm
7	Length (drawn out buttstock):	760 mm
8	Width:	75 mm
9	Height with handle for carrying:	234 mm
10	Height with magazine (30 rd):	297 mm
11	Weight without magazine:	3,75 kg
12	Weight magazine (empty):	139 g

Assault rifle VHS-D2, cal 5.56x45 mm



Technical specification:

1	Caliber:	5.56x45 mm
2	Ammunition:	5.56x45 mm; SS109
3	Barrel length:	500 mm
4	Velocity of firing:	850±100 rd./min
5	Muzzle velocity	910±30 m/sec
6	Length (overall):	800 mm
7	Length (drawn out buttstock):	850 mm
8	Width:	75 mm
9	Height with handle for carrying:	234 mm
10	Height with magazine (30 rd):	297 mm
11	Weight without magazine:	3,9 kg
12	Weight magazine (empty):	139 g

The VHS assault rifle has passed through heavy testing and has met all of the CAF's and NATO's criteria.

Plans for the development of Croatian assault rifles were set in motion along with the founding of the company and the development of pistols somewhere in the early nineties.

Getting equipped with a new assault rifle was one of the priorities for the modernisation of the CAF, whose official rifle up to now has been the AK-47. Entry into NATO implied the usage of a 5.56 mm calibre weapons, which automatically eliminated all the so-called "Eastern" types and helped give HS products direction that it will pass rigorous testing that are set by the North Atlantic Alliance standards.

The VHS rifle is a new product, but its future is heading towards further equipping of Croatian soldiers.

The HS Produkt "assault rifle" project has confirmed its unquestionable expertise, knowledge, professionalism, consistency and market dynamism.

Grenade launcher VHS-BG, cal 40x46 mm (with retractable buttstock set)



Technical specification

1. Caliber	40x46 mm
2. Barrel length	260 mm
3. Velocity of firing	5 to 7 grenade/min
4. Range	450 m
5. Length (with extended buttstock)	675 mm
6. Width (with sight)	84 mm
7. Height (with sight)	215 mm
8. Weight (with sight)	1970 g



Assault rifle VHS-K2, cal 5.56x45 mm CT-1.5x (integrated optic sight with red dot and magnification 1.5 in upper handle)

Height with optic sight:	250 mm
Height with magazine (30 rd):	312 mm
Weight without magazine:	4,15 kg

Technical specification of optic sight with red dot and magnification 1.5 (CT-1.5x)

1. Magnification	1,5 x \pm 0,05
2. Diameter	10 mm
3. Visibly field	5,1° \pm 0,1°
4. Optimal distance from eye	70 \pm 10mm
5. Operating temperature	from -32 °C to +49 °C
6. Storage temperature	from -40 °C to +71 °C

Assault rifle VHS-D2, cal 5.56x45 mm CT-1.5x (integrated optic sight with red dot and magnification 1.5 in upper handle)



Height with optic sight:	250 mm
Height with magazine (30 rd):	312 mm
Weight without magazine:	4,30 kg





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IKOM- Industry and mint

IKOM - KOVNICA Ltd. - a mint from Zagreb in the larger part of its current production program has been forging its tradition since 1946, constantly expanding the application of its technologies in the fields of minting, engraving plating enameling and the like.

In the mentioned period and up to today, IKOM-KOVNICA has been famous for the applied technologies especially for its master's artisans.

The products are made of various metals (copper, iron, brass, more often gold or silver and many other, enriched with burned enamel).

Our products are:

- Enamel or relief badges and emblems (badges for businesses and non-economic organization).
- Decorations for the army and police made of precious and non-precious metals
- Memorials for army, police, fire brigades.
- Medals and medallions for sport, administra-



tion, economic and non-economic organizations.

- Belt-buckles for industry and institutions.
- Engraved products plate engraving, sign-inscription production, and steel stamps production according to the scheme).
- Sign plates for the means of work, tool stamps.

- Metal buttons of all kinds of inflicted relief
- Urns of various types.
- Surface process services (gold, silver, copper plating).

In our works we have poolroom (several lathes, milling machines, one CNC, wire CNC, and other), engraving room (engraving machines one also CNC), mint (presses from 5 -1200 tons), polishing, plating (new ecological galvanic plant), goldsmith workshop. All plants are provided with several little machines needed in such a production.



INKOP

INKOP, Industry of leather and footwear is located at Poznanovec. They process leather and manufacture footwear. The company began processing leather in 1919, and the first shoes were made in 1960. INKOP manufactures fashion and protective footwear and footwear for special purposes (military, police, firefighting, medical footwear).

In manufacture of military and special protective footwear, they use a lining material with fitted waterproof and steam permeable membranes that prevent penetration of water in footwear and at the same time, enabled respiration of feet.

The main customers of the footwear for special purposes are:

- Ministry of Defence of the Republic of Croatia
- Ministry of the Interior of the Republic of Croatia
- public companies in the Republic of Croatia (working-protective footwear)
- Ministry of Defence of Montenegro
- Ministry of Defence of Bulgaria.

Since 17 May 2007, INKOP has been holder of the certificate for management system EN ISO 9001: 2000.

The company has good traffic connections, it is located 10 km from the Zagreb-Krapina motorway, and the cargo railway station Bedekovčina is 2 km away.



Article: 070709
Upper: leather
Lining: waterproof membrane
Sole: PU/rubber
NSN: 8430530001067 (size 42)



Article: 300609
Upper: leather/Cordura
Lining: waterproof membrane
Sole: PU/rubber
NSN: 8430530001052 (size 42)



Article: 030810
Upper: leather
Lining: waterproof membrane
Sole: PU/rubber



Article: 290913
Upper: leather/Cordura
Lining: waterproof membrane
Sole: PU/rubber



Article: 270409
Upper: leather/Cordura
Lining: waterproof membrane
Sole: PU/rubber
NSN: 8430530000921 (size 42)

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INsig2

Design and implementation of sophisticated integrated corporate security solutions

INsig2 is active in area of both ICT and physical security. We can design, implement, integrate and maintain the most sophisticated security systems. Our competencies comprise good knowledge of principles of IT security governance, design of high tech physical security systems, integration between logical and physical security systems and maintenance.



Cyber defence

„Cyber“ is used to refer to those parts of IT infrastructure and threat environment that deal with countering attacks and “cyberspace” refers to the global network of computers, networks, and people who use them. Cyber defence is a group of actions designed to protect from imminent threats, ongoing attacks or malicious activity against national interests. Those actions combine information assurance, computer network defence (to include response actions), and critical infrastructure protection with enabling capabilities (such as EP, critical infrastructure support, and others) to prevent, detect, and ultimately

respond to the adversaries' ability to deny or manipulate information and/or infrastructure.

IT Security consulting

INsig2 has great experience in securing companies information assets. We provide consulting services to number of governmental institutions and private companies. IT Security program design and implementation INsig2 consultants are experienced in designing security program for each company according to its business strategy. Security program will ensure that all valuable company's information assets are protected in the most efficient way.



Designing physical protection systems

Physical security system design is one of the critical steps in securing companies physical assets. Knowing business needs, sources of threats and risks are the basis for our experts to propose technical solutions and organizational policies for operations of physical security systems.

Implementation of physical protection systems

Our experts are capable of implementing physical security system which includes cabling, equipment mounting (cameras, sensors, locks, etc), and connecting and configuring all components in one integrated physical security system.

Integration between logical and physical security systems

More and more companies have very sophisticated business environments as well as complex internal organization. It is not rare that activities in one business unit influence security threats in another business unit. On the other hand, most of physical security equipment has become IP based. Network cameras are not just cameras any more; they are computers with a processor, memory and an operating system. All those reasons have lead to enormous growth of need for organizational and technical integration of logical and physical security systems. Having in mind that INsig2 is an IT company and that we understand IT technologies very well, we have successfully delivered number of integration projects.

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Computer forensics investigation

The nature of crime is changing on a daily basis. Thieves do not need guns any more. Today computers do. Digital evidence is not easy to hide, but also, it is not easy to find. Our experts are well educated and experienced in conducting digital forensics investigation, finding digital evidence and preparing reports to be used in the law courts.



Design and implementation of data centers according to norm EN1047

Protecting sensitive electronic equipment from fire, dust, humidity, or electromagnetic waves is not an easy task. In the case of fire or some other incident, it is not possible to place data center equipment at a safe location. So, it is important that the data center is built according to European norm EN1047-2. This norm defines what criteria construction elements need to fulfill in order to prevent the data center to be destroyed. INsig2 has competencies in designing, building, equipping and maintaining such highly sophisticated data centers.



Institut Ruđer Bošković

Division of Laser and Atomic R&D

**Ruđer Bošković Institute,
Zagreb, Croatia**



Division "LAIR" of the Ruđer Bošković Institute is a R&D organization specialized for research and development in the field of military photonics. The division can independently, in the scientific surrounding of Ruđer Bošković Institute, work on the R&D of sophisticated instrumentation for military purposes.



The Division comprises development groups and laboratories, i.e. Laboratory of optical instrumentation, Laboratory of thin films, Laboratory of optoelectronics, Laboratory of photolithography, Group for electronic support, mechanical and optical workshop and, finally, Quality control. In the cooperation with several companies we cover the full cycle from the basic idea and development of the functional model, to the small series production.

R&D and Small Production Program

The Division produces a family of optical aiming devices for all arms types manufactured in Croatia, and many of them from the NATO and eastern countries. Our program includes:

Artillery group:

- Artillery range finder - DT-1
- Panoramic telescope PC-1
- Collimator with tripod - K-1H
- Direct sight - CN-1
- Illumination accessory - POS-1, POK-1, POP-1 and POT-1
- Tritium points - TCT-M96 (orange, green)
- Tritium torch - T-92
- Artillery compass - KT-1 with tripod

Aiming devices for mortars:

- Optical mortar sights - CN-4 and CN-4B
- Aiming telescope with iron sight - CN-4G

Boresights:

- DR-125 (for tank M-84 - 125 mm) and DR-105
- DR-40, DR-30, DR-20 (for antiaircraft guns 40-20 mm)
- DR-12.7, DR-7.9, DR-7.62, DR-5.56, DR-5.45 (12.7 - 5.45 mm)



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Night sights:

- Night sight - NC-2
- Observing night sight with tripod - NC-3

Compact aiming telescopes:

- Aiming telescope for recoilless gun BT-82 - CN-5
- Aiming telescope for rocket launcher RL90 M95 - CN-6

- Aiming telescope for hand launcher M57 - CN-7
- Elbow telescope for gun-howitzer- CN-9
- Compact sight - CN-10

Diagnostic devices:

- Initial velocity measurement system for muzzles MPB-1
- Initial velocity measurement system for grenades MPB-2
- Test and diagnostic station for "AT-4 Spigot" - MDS-1

Training devices:

- Laser tank gunnery simulator - LST M84
- Laser anti-tank gunnery simulator - M79PT
- Anti-aircraft gun tracking training device - NPC-1
- Simulator for "AT-4 Spigot" and "AT-7 Saxhorn" - SIMTREND
- Simulator for AT-3 Sagger MCLOS
- ATGW - CROTREND

Product Examples

PC-1 Panoramic telescope is the aiming device for guns and howitzers.

K-1H Collimator with tripod is used for calculation of the aiming point for guns and howitzers, for orientation of the weapon and topographic artillery application.

CN-4 Optical mortar sight is the aiming device for mortars and rocket launchers

CN-5 Aiming telescope for recoilless gun BT-82

The reticle can be changed in accordance with the desired ballistics and desired external configuration for the use on similar systems.



KT-1

The **artillery compass** is the basic instrument of artillery for the use in:

- Measurement of magnetic angles
- Determination of the geographical angles
- Determination of horizontal and vertical angles
- Distance determination
- Approximate determination of topographic elements
- Topographic artillery combat deployment
- Artillery fire correction

Boresights DR-40, DR-30 and DR-20

The boresight is used for fast and efficient check and adjustment of the rectification of the 20-40 mm guns. It consists of the elbow telescope and gauges for 40, 30 and 20 mm. The gauge can be adapted for any other diameter, i.e. type of weapon.



Boresight DR-125

The boresight is used for fast and efficient check and adjustment of the rectification of the M84A's gun. It consists of the elbow telescope and the gauge for 125 mm. The boresight can be used for other guns of the same diameter. The gauge can be adapted for any other diameter, i.e. type of weapon.





Jacquard d.o.o.

Jacquard

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INFRARED INVISIBLE



manufacturing and sales of woven labels, flags, emblems for:

- Army
- Police
- Firefighting
- Other

Jadran Hosiery Factory

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www.jadran-carapa.hr



Jadran Hosiery Factory Inc. was founded in Zagreb in 1930. Jadran, Inc. produces hosiery for women, men and children from natural and synthetic materials.

Its standard production range includes more than a hundred different products and in case of specific needs and requests it is possible to arrange production of hosiery for specific purposes. Jadran Inc. is experienced in this kind of production, primarily for the needs of the Croatian Armed Forces. Regarding the specific requirements of the military, which call for high standards due to the conditions in which the hosiery will be used, it is necessary to point out that the technology and development potential of Jadran Inc. enables the production of the most demanding top-quality products.

Jadran Inc. has 270 employees. The annual production is 11 million pairs of hosiery of all kinds. Approximately one half of the output is sold at the European Union market, while the other half satisfies most of the demand of the Croatian market. Jadran Inc. has the state-of-the-art production technology and uses natural and synthetic materials of the highest quality. Jadran Inc. offers its customers top quality, good prices and short delivery time of its products.





Jelen Professional

Jelen Professional is Croatian manufacturer for military, firefighters, working and safety boots. Our goal is to produce modern, high quality boots for every segment we cover. We have over 60 years long tradition in manufacturing footwear.





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A long-standing tradition and experience, together with continuous improvements and introduction of new technologies and materials, enables us to keep up with the world standards and manufacture footwear that combines safety, protection, comfort and quality.

Jelen Professional is pursuing the strategy of quality, development and continuing growth. In the manufacturing process Jelen Professional uses two technologies: adhesive footwear technology and directly injected polyurethane footwear technology. Special military footwear quality is assured by using water - resistant membrane designed in accordance with SYMPATEX technology, which enables feet to breathe by preventing water to reach inside, while simultaneously allowing evaporation.

SYMPATEX is the innovative hi-tech climate system for footwear. Created for people with high expectations - independent of the weather and outside circumstances, individual for each situation, for each challenge. SYMPATEX the 100% waterproof and breathable system for protective footwear. For the highest levels of wearer comfort and protection.

SYMPATEX membrane fitting process is constantly monitored by the licensing company, and all products are subject to rigorous tests: stitching test, ripping test, wearing out test, twisting test and simulated walking test.

QUALITY AND CONVENIENCE

Employees spend half a day (or at least few hours) in working footwear. Therefore it is highly important, that working footwear fulfills the criteria of quality and convenience, meeting exactly the demands of each profession. Jelen Professional has created numerous types of working footwear, because each profession demands its own solutions of specialized footwear.



JLM Perković

JLM is a small and flexible company, with expert staff, continuously investing into the products and equipment and is capable of resolving highly complex machine metal working tasks, particularly transmission gear. The company's military and defence product line includes the RT-20 M1 (cal. 20x110) sniper rifle.

OFFER - TECHNICAL SPECIFICATION

TYPE:	ANTI-MATERIAL SNIPER RIFLE
MODEL:	RT-20 M1
CALIBRE:	20x110 mm

- Anti-Material sniper rifle
- First round hit at optimum ranges
- Effective range: 2000 meters
- One of the most powerful rifles in the world
- With unique recoil system with reactive tube
- Light weight
- Anti-shine finish





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DESCRIPTION

The RT-20 M1 anti-material rifle can be used against vehicles, communication shelters and similar targets. The rifle can be also used by explosive ordnance disposal teams. Aiming with the rifle is stabilised by the adjustable height of the bipod. With a maximum operation range of 2000 m the RT-20 M1 falls into the category of anti-material rifles.

RT-20 M1 has bull-pup construction in order to reduce the overall weapon size.

The recoil produced by the 20 mm cartridge is absorbed in two ways: by a recoil compensation tube located above the barrel, exhaust directed to the reverse side, behind the shooter, and by a high efficiency muzzle brake.

RT-20 M1 Sniper Rifle is a single-shot weapon, bolt-action rifle with an optical sight.

The optical sight is mounted at sideways the barrel instead of classical above-barrel position. The standard optical sight issued with the weapon is the model Kahles K312.

RT-20 M1 sniper rifle is operated and carried by one operator.

The locking mechanism is manually operated, bolt is left-hand operable due to its position on the left side of the weapon. The bolt has 3 sets of locking lugs opened by turning the bolt handle for 60°. When the bolt is moved forward and locked, the rifle can fire safely.

TECHNICAL SPECIFICATIONS

MODEL:	RT-20 M1
CARTRIDGE/CALIBRE:	20x110 mm HISPANO
OPERATION:	MANUALLY OPERATED BOLT
MAGAZINE CAPACITY:	SINGLE SHOT
OVERALL LENGTH:	1330 mm
BARREL LENGTH:	920 mm
MUZZLE VELOCITY:	850 m/s
BIPOD:	STANDARD RT-20
SCOPE:	KAHLES K312 3-12x50
EFFECTIVE RANGE:	2000 m [Ammunition Dependant]
TEMPERATURE RANGE:	-40°C/+60°C
CONSTRUCTION:	BULL PUP
MASS OF RIFLE WITHOUT BIPOD AND SCOPE	15.10 kg.
MASS OF BIPOD	1.3 kg.
MASS OF SCOPE	0.6 kg.
MASS OF RIFLE WITH BIPOD AND SCOPE	17.0 kg.
MASS OF BACKPACK	3.2 kg.

CALIBRE: 20x110 mm



TECHNICAL DATA

	HE	HEI	HE-T	HEI-T	API-T	API	AP-T	TP-T	TP	BLANK
NATO designation	HE	HEI	HE-T	HEI-T	API-T	API	AP-T	TP-T	TP	BLANK
Projectile mass (g)	122	122	122	122	142	142	142	122	122	min 70
Propellant mass (g)	29	29	29	29	32	32	32	29	29	29
Explosive mass (g)	12.1	12.1	6.1	6.1	none	none	none	none	none	none
Complete round mass (g)	246	246	246	246	265	265	265	246	246	195
Explosive type	RDX	RDX+AI	RDX	RDX+AI	none	none	none	none	none	none
Complete round length (mm)	184	184	184	184	182	182	182	184	184	184
Muzzle velocity (m/s)	845	845	845	845	844	844	844	845	845	none
Self-destruction time (s)	4.5 - 8	4.5 - 8	4.5 - 8	4.5 - 8	none	none	none	none	none	none
Tracer burning time (s)	none	none	3.5	3.5	3.5	none	3.5	3.5	none	none

PACKING DATA

Description	100 rounds in a wooden case
Wooden case dimension (mm)	660 x 232 x 200
Case gross mass (kg)	34
Case volume (m ³)	0.03

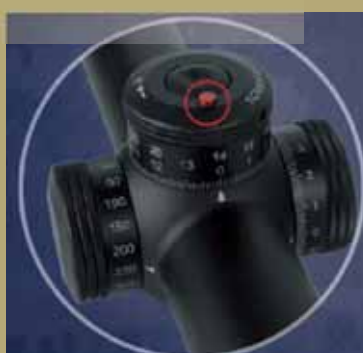


SCOPE: KAHLES 312 3-12x50



Technical Specifications K 312 II

Magnification	3-12
Obj.lens diameter	50 mm (1.97 inch)
Field of view	35 - 10.5/ 100 yd
Eye Relief	90 mm (3.54 inch)
Diopter compensation	+2/-3.5 dpt
Parallax adjustment	30 m until endless
Impact pt. corr. per click	1 cm / 100 m
Elevation	2.4 m / 100 m (7.2 ft/ 100 yd)
Tube diameter	34 mm (1.34 inch)
Length	386 mm (15.2 inch)
Weight	800 g (28 oz)
Reticle	Mil 2
Parallax adj. marking	30 m until endless



Reticle placement indicator



Kap-ko

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Kap-ko was established in Zagreb in 1996, as sister company of "Šešir" also from Zagreb, which has a long tradition in hat making, from 1886.



From our beginning we have produced various models of hats, baseball hats, hats for graduates and embroidery. With our quality and stability we are well known supplier of most of Croatian ministries, as well on the foreign market where we have been present for some time. Our goal is that all our products with their quality and design meet the needs of our customers.



Končar Electrical Equipment



Končar Electrical Equipment was founded in 1946. and it has operated under the present name since 1970.

Today it's production facilities operate on approximately 10.000 m², with more than 100 employees, of which more than 40 have university degrees either in electrical or mechanical engineering.

Quality Management System is certified, adequately operated and maintained in accordance with ISO 9001:2000.

Company's standard product line contains:

1. MV Switchgear
2. LV Switchgear
3. Marine Equipment and Device
4. Uninterruptible DC Power Supplies

Končar - Electrical Equipment has great experience in manufacturing medium voltage switchgear and transformer substations.

Our MV switchgear can be either fixed type rated up to 38 kV, or withdrawable type metal clad rated 12 kV, 17.5 kV, 24 kV, 38 kV.

Great export experience was gained delivering MV Switchgear to SEC (Saudi Electric Company).

We export to this market 17.5 kV switchgear and 38 kV switchgear for which we have type-certificates (CESi, Milano and Končar-IET).

Technical Cooperation Agreement with ABB will help us increase sales of our products on

regional market.

We cooperate also with other manufacturers of CBs, instrument transformers and protection relays.

The Company has a large range of LV Switchgear for distribution and industrial plants. This includes modular and fixed low voltage switchgear, fixed and withdrawable type group motor starters, LV switchgear for regulation of electromotive drives, power factor correction switchgear, distributive LV switchgear cabinets, control, distribution and measurement cabinets.

The Company has a License Agreement with GE (General Electric) for switchboards type





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Modula Plus & SEN Plus.

Končar - Electrical Equipment Inc. has 50 years of experience in manufacturing marine equipment and devices. This product line includes: main and emergency switchboards, group and individual motor starters, main lighting switchboards, remote control desks for main engine room and main bridge, power and lighting distribution panels, connection boxes and EDG

modules (containers) incl. tanks for emergency diesel generators.

Works in Shipbuilding industry are under permanent supervision by Classification Societies and are therefore much more difficult to perform than works on land. We have experience with all societies like DNV, ABS, Lloyd, Germanischer Lloyd, RINA, RMRS, Bureau Veritas...



Kroko International

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Kroko International is a family-run business founded in 1961. At the beginning, the company was handcraft oriented and was producing leather products for fashion industry and various leather accessories. From the start the company was recognised by customers for its high-quality products and make-to-measure projects.

In the beginning of 1990's when the war broke-out, there was a strong demand of the market and the government for police and military products due to war circumstances. That was the turning point, in which the owning structure decided to make a shift in the policy of running the business and started to produce police and military equipment.

Naturally, leather was the first material that was used to produce such products, considering up to then, leather the most commonly used material for police and military equipment. In time, company engineers have acquired the know-how for the specific products and have been familiarised to new and modern materials that were easier to handle and more appropriate for special equipment than leather (e.g. Cordura, Nomex, Kevlar, various membrane materials...etc.).

Thereupon a strong development occurred, manifesting in the implementation of the new material and bringing new products to the market. Also, new products were designed for special military and police purposes such



as holsters, duty belts, backpacks, various protective gear, ballistic equipment, tactical vests, pouches...etc. Along with the production part, Kroko gained exclusive distribution rights for many top quality and military approved international brands such as ESS, Camelbak, 5.11 Tactical, SureFire, Danner, Belleville, Marlow...etc. Company growth was substantial and along came some new ideas.

At the beginning of the year 2001., company began to develop new BDU uniforms for the Croatian Armed forces. Following worldwide trends, the idea was to make a recognizable uniform in digital pattern that will provide a comfortable clothing, outstanding camo properties and will consist of hi-quality modern materials that have a special characteristics. Engineers have applied the landscape of Croatia in the digital form together with other patterns and created a new desert pattern for the forces in peacekeeping missions. After the desert camo has been approved and tested, the company



Croatian Armed Forces BDU woodland camo pattern



started developing woodland and urban version.

Today, the company has a history of almost 19 years of supplying Croatian Armed Forces, Croatian Police, Ministry of Justice and other government institutions. The quality of the product has also been recognised internationally, so the company exports its products to Germany, Switzerland, Kuwait, Saudi Arabia, Montenegro, Kosovo, South African Republic and others. One quarter of the Croatian armed forces is already been equipped with the new BDU's and the feedback from our troops abroad is outstanding. Of course, development progresses in every field and, without a doubt, the company has become a national and regional leader in supplying police and military equipment.





Croatian Armed Forces BDU desert camo pattern





Letina inox

Letina inox works successfully for over 20 years in the European and world markets.

In our own manufacturing facilities with area larger than 10.000 m² with a help of superior technology, our high quality products are being developed and produced. Our greatest value lies in 180 young, motivated and professional employees who are the foundation of our success. The particular emphasis in our production is placed in the quality control. Each of our product is tested and reviewed by the internal control before it leaves our manufacturing plant because quality is our foremost.

Flory 26

Suspended stainless steel helicopter bucket Flory 26 is used for fighting wildfires (forests, cereal fields, orchards, olive groves, macchia, underbrush), urban fires, water delivery, emergency evacuation and oil spill treatment.

Incredibly flexible

Bucket can be filled in backwaters, ponds, lakes, seas, pools. While scooping water from the sea, the suspension length enables the helicopter to stay out of reach of salt water drops.



TECHNICAL DATA:

Load on the lock	2640 kg
Usable volume	2311 lit.
Material	Stainless steel W.Nr1.4404, AISI316L
Tare weight	329 kg
Pneumatics	Festo
Filling time	3 sec
Discharge time	3 - ... sec



The company Aluminium Workboats (AWB) is a subsidiary of company Letina inox d.o.o. from Čakovec. Aluminium Workboats is able to offer to the market a combination of Nordic seas shipbuilding know-how, Mediterranean shipbuilding tradition and proficiency in metal handling and welding. In our production site in Čakovec, Croatia - 250 km from sea - our team of experienced and professional workers design and manufacture aluminium work boats up to 15 meters.

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Fast patrol boat PB-101

TECHNICAL CHARACTERISTICS

Length overall:	10.80 m
Beam overall:	3.56 m
Draft:	0.76 m
Crew / passengers:	2 + 8
Speed (max):	38 knots
Engines:	2 x 370 hp



Fast patrol boat Patrol 760

TECHNICAL CHARACTERISTICS

Length overall:	7.66 m
Beam overall:	2.45 m
Draft:	0.45 m
Crew / passengers:	1+2
Speed (max):	30 knots
Engines:	2 x 115 hp



Lipik Glas

Lipik Glas is a world renowned OEM Automotive glazing producer supplying top quality products to customers such as Bentley Motors, Aston Martin, McLaren, Lamborghini, Bugatti, etc.



The company was established in 2001. and is owned by the Italian company FININD Group - Isoclima S.p.a from Este, Padua.

Today, Lipik Glas, successfully works in two dominant Industry segments: automotive industry and bullet resistant glazing's.

For the automotive industry we produce a variety of products in the form of windshields, backlites and side glass and are a certified supplier.

We produce curved and flat safety glass that offer protection against vandalism and burglary, or against firearms attacks, bullet-resistant glass.

Combining glass with PVB or polycarbonate interlayers, we offer a variety of protection levels to all high-risk environments (e.g. military vehicles or civilian applications).

Our goal is to provide special applicable solutions in which safety and quality are of paramount importance.

Along with production, we offer design services and technical support for your projects. In this way we provide full project coverage to ensure satisfaction of our customers.

All our products are tested in state-of the art laboratories and all conform to the European Norms and Standards and other applicable standards such as EN356, EN1063, Stanag, etc.





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All our production units are certified by the Quality Management System ISO 9001:2000 as well as the special automotive ISO certificate ISO/TS 16949:2002. and ISO 14001 for the environmental management systems.

M ADLER D

Contact:
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MADLER D d.o.o. is private company for production and intercession. Main orientation is on production of rocket launchers in 40 mm calibre. Along with production, research and development for military purposes which employs 25 workers, the company under the name KRASA employs 50 workers in the civilian purposes production program with modern and high-quality technologies for sheet metal solutions, welding and machining founded in 1998.

MULTIPLE GRENADE LAUNCHER (RBG-6) INFO

Multiple Grenade Launcher Type RBG-6, cal.40x46mm, is a lightweight, semi-automatic, shoulder-fired grenade launcher for infantry use. It fires the widely used 40x46mm grenade, the low-velocity family of grenades.

RBG-6 is based on the revolver principle with a spring-driven, gas-operated cylinder.

The weapon is equipped with a three-position folding stock. When fully extended the stock is almost parallel with the barrel. It is locked in that position for shorter ranges and as the range increases, the stock can be raised slightly to facilitate sighting.

The weapon is fitted with an Occluded Eye Gunsight (O.E.G.), which means that the weapon is fired with both eyes open. One eye looks into the sight and focuses on the red line, while the other eye has unobstructed view of the target. The sight is fully operational in both good and poor weather conditions as long as the target is visible.



Technical data

Calibre:	40 mm
Feed:	6 - chamber revolving cylinder
Operation:	semi-automatic, single shot
Weight:	empty, 5.6 kg
Length:	butt folded, 566 mm
Length:	butt extended, 777 mm
Height:	300 mm
Muzzle velocity:	76 m/s
Maximum effective range:	375 m
Maximum range:	400 m

MADLERD COLLIMATOR SIGHT (MCS-1)

Occluded Eye Gunsight (O.E.G.), which means that the sight is operated with both eyes open. One eye looks into the sight and focuses on the red point, while the other eye has unimpeded view of the target. The sight is fully operational in both good and poor weather conditions as long as the target is visible.

Housing:	Machined aluminum
Finish:	Matte black anodized
Length:	130 mm
Height:	34 mm
Width:	34 mm
Weight:	110 g
System Type:	Passive Red Dot Collimator
Lens:	Glass (optional: crown glass/RK7)
Optical coating(optional):	Multi layer anti-reflective
Dot color:	Red (optional: yellow/green)
Magnification:	1x (non-magnifying)
Eye Relief:	Unlimited
Reticle Size:	4 MOA
Windage:	Adjustable
Elevation:	Adjustable
Battery:	None require





SHIPYARD
MONTMONTAŽA - GREBEN L.t.d.
02702 VELA LUKA - CROATIA

Montmontaža Greben



Shipyard Greben Ltd. was founded in 1948. Today, the shipyard Greben exists as Montmontaža-Greben Ltd., employing 150 people and is completely owned by the Montmontaža Group, one of the Croatia's leading constructors of industrial plants, buildings and infrastructure. The shipyard is located in the island of Korcula in Croatia, at the Adriatic Sea. The total plant area covers 50.000 m², 25.000 m² of which are enclosed premises with all necessary equipment.





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Since 1950 it started to manufacture lifesaving equipment and lifeboats from aluminium alloy. During the 1960ies development started on GRP lifeboats. In the same year production also included lifeboat lifting and lowering arrangements.

Today the shipyard "GREBEN" is one of the leading manufacturers of lifesaving equipment in Europe (davits, winches, lifeboats etc.).

Besides lifesaving equipment, between the 70's and 80's, the shipyard "GREBEN" has transformed to manufacture large crafts from GRP. It started manufacturing fishing vessels, patrol boats, landing crafts, fast boats, passenger boats and sailing yachts as well. Developing new products has enabled renovation of production premises (workshops, slipways, assembly shops, fitting-out quay and the remaining necessary premises).



Vessels, lifeboats, lifesaving equipment are made in compliance with all Classification Societies (Lloyd, Bureau Veritas NMD, R.I.NA etc.). We signed a contract with the Bureau Veritas and introduced a new quality control system according to ISO 9000.

"GREBEN" generally has a good reputation and exports over 70% of the total production to various countries worldwide (in Europe, Africa, Asia).



PRODUCTION PROGRAM

- MILITARY AND POLICE VESSELS
- FISHING VESSELS
- LIFESAVING EQUIPMENT
- PASSENGER VESSELS, SAILING AND SPORT BOATS
- OTHER PRODUCTS from GRP

Munja

“MUNJA” Joint Stock Company, the plant for production of batteries, exists as the only and the oldest producer of this kind of products in the Republic of Croatia, and originates from the year 1920.

Munja is presently producing as follows:

- starter batteries - DIN standard for all types of cars, cargo vehicles and agriculture mechanization;
- batteries for special purpose for army needs;
- batteries attested for ships;
- stationary cells attested for submarine types Pg 3820 and 16 PrE490;
- stationary GroE batteries - DIN standard;
- tractionary batteries.

Munja batteries are high quality products with following characteristics:

- fabrication in polypropylene or hard rubber, voltage 6 or 12V, capacity from 36 till 225 Ah;
- production according to special requirements by ordering party;
- container batteries high quality without maintenance;
- dry-charged batteries;
- capability of storing without electrolytes for long period of time without losing characteristics (dry charge variety);
- simple installation in vehicle and momentary ability for usage;
- after putting the electrolyte (without former charging by electricity);
- ability for discharging by high electricity that provides safety movement of engine at low temperatures.





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BATTERIES FOR SPECIAL PURPOSES

Submarine propulsion battery Type Pg 3820 - Tube types

The battery consists of 144 cells assembled in glass fibre - resin containers with glass fibre - resin covers. The cells are designed for open tank ventilation.

Capacity characteristics:

Discharge time (h): 20;

Discharge current (A): 2 2 8 ;

Capacity (Ah): 4560.

The Dimensions of cells are:

H: 1111±2 mm including cell plugs, poles and shock absorbing soft rubber buffers;

L: 492±2 mm;

W: 341±2mm.

The total mass of a cell with electrolyte excluding connectors is 498 kg±2%.

Submarine propulsion battery Type 16 PrE490 6 mm Tube type

The battery consist of 128 double cells assembled in glass fibre - resin containers with glass fibre - resin covers. The cells are designed for open tank ventilation.

Capacity characteristics: Discharge time (h): 20; Discharge current (A): 87.5; Capacity (Ah): 1750. The Dimensions of cells are: H: 707±1 mm including cell plugs, poles and shock absorbing soft rubber buffers; L: 229±1 mm; W: 405±1.5mm. The total mass of a cell with electrolyte excluding connectors is 174 kg±2%.

Lead Acid Battery Special Army Purpose 12V-140Ah

The basic block of 12V-140Ah consists of six adjacent cells in hard rubber container with covers. The external dimensions are: H: 218; L: 511; W: 240 mm. Capacity characteristics: Discharge time (h):20, Discharge current (A): 7; Capacity (Ah): 140. Usage: for tanks T-55, T-72, T-84BVP pulling vehicle M-32, tracked vehicle ATS-59, armored vehicle BRDM; BTR-50, electroaggregates AD-10, AT-30.

Lead Acid Battery Special Army Purpose 12V-135Ah

The basic block of 12V-135Ah consists of six adjacent cells in hard rubber containers with covers. The external dimensions are: H: 218; L: 511; W: 240 mm. Capacity characteristics: Discharge time (h):20, Discharge current (A): 7; Capacity (Ah): 135 Ah. Usage: for tanks T-34 KRAZ-214B and Bvp M801, howitzer, armored vehicle.

Lead Acid Battery Special Army Purpose 24V-70Ah

The basic block of 24V-70Ah consists of six adjacent cell in hard rubber containers with covers. The external dimension are: H: 242; L: 586; W: 245 mm. Capacity characteristics: Discharge time (h):20, Discharge current (A): 3,5; Capacity (Ah): 70. Usage: different types of combat vehicle: SLO9P31M, BRDM-2, GM-426 U, 568 M and 578 M, PTLO 9P 122, MAZ 537 G, GM-426 U, GAZ-69, VAZ-450.

NCP Repair Shipyard Šibenik

In 1905 Šibenik became the Navy port of Austro-Hungarian Monarchy and from that date the warships support started on this location.



The Shipyard earned its reputation by servicing the state Navy and developed from a small workshop with scarce material and technical resources into a modern ship repair base in the perfectly sheltered Bay of Šibenik. The Shipyard celebrates the hundred-year anniversary of successful operations with its new owners, NCP Group, bringing new enthusiasm and prosperity both to the shipyard and the city of Šibenik. After taking over the repair shipyard together with its most valuable asset - experienced, capable and committed workers hardened in the demanding industry of naval shipbuilding - NCP has refitted and maintained some of the world's largest and most luxurious yachts with ease.

OUR POSSIBILITIES:

- **Docking** of all kinds of vessels up to 1500 tons of displacement.
- **Synchrolift** of 900 tons capacity; on the synchrolift work area it is possible to place 8-10 ships up to 50 m of length at the same time.
- **Complete servicing and class repairing of vessels** in Ship repair Yard or performing services on board upon customer's request.
- **Newbuilding of steel, aluminium and GPR boats and vessels** (we can make and outfit var-

ious boats and vessels of GRP/FRP up to 20m, steel and aluminium vessels up to 40 m).

- **Outfitting already prepared hulls** (up to 100-120m).
- **Overhauling of shipboard equipment and systems** (shafting, bronze propellers, propulsive devices, rudders and steering gears, marine pumps, separators, boilers, desalinizers, valves, cleaners, filters, piping, high-pressure air systems, deck machinery, mechanical, hydraulic and pneumatic control system, ship instruments and navigation installations).
- **Overhauling of main and auxiliary diesel engines** including test stand testing for engines up to 5150 kW and 15 tons (we service engines of greater power and mass on ship on our shipyard or in any other place on Client's request).
- **Overhauling of marine reverse gears.** Servicing and overhauling of marine engines components e.g. HP fuel system, governors, turbochargers (including rotor dynamic balancing), fuel injection valves and fuel injectors.
- **Service and overhauling of electric and electronic ship systems** (winding of electro motors, generators and all kinds of coils, ship's measuring equipment system service, ship's electric wiring installations, testing of electric



motors and generators, accumulator establishing, supporting and repairing,...).

- Facilities for different kind of manufacturing such as **machining** (turning work: up to 1250 mm diameter, 9000 mm length and 14000kg mass, turning work on the carrousel, honing, planing, milling and planed grinding, round grinding and crankshafts grinding, engraving), **casting** (grey iron with cast work mass up to 70 kg, several types of bronze with cast work mass up to 150 kg, aluminium alloys with cast work mass up to 100 kg, ship zinc protectors made from pure zinc or from zinc - mercury alloy, bearing white metals), **galvanic treatment** (15 different galvanic processes), **heat treatment** (improving, hardening, cementation, nitriding).

- **Production of spare parts** for different types of diesel engines and other ship's machinery (nitrated steel cylinder liners, cylinder blocks, turbocharger parts, various seals, rubber products, etc.).

- **Reconditioning of different parts of diesel engines** (recondition by grinding, reaming, honing, cold and warm material coating and by galvanic treatment).

- **Certification of measuring instruments** for length (from 5 microns to 1100 m), pressure (from 500 Pa to 110 MPa), temperature (from 200°C to 1100°C), angle (2" to 360 deg) and torque (from 20 Nm to 500 Nm).

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- **Engineering and technical services** (designing and elaboration of classification, constructional-technical documentation for boats, ships, ship equipment, ship support facility etc).

- **Servicing and overhauling of warships** and special protection for military equipment.

Ship equipment making

We can make various ships and other equipment according to shipbuilding standards, drawing or samples:

- Railings, awnings,
- Doors, small hatches, manholes, scuttles, ladders, accommodation ladders,
- Mooring equipment, anchoring equipment, deck machinery and equipment cargo gear,
- Receivers, heat exchangers, pipe equipment, valves, piping,
- Shafting, steering gears,
- Electric devices.

WEAPONS REPAIR

In our artillery department we perform all calibre gun weapons repairs (naval, coastal and anti-aircraft defence).

We make parts and gun weapon systems.

We install gun and rocket weapons on ships and coastal systems.





Obuća VIKO

Obuća VIKO is a footwear factory founded in 1946 and with our 65-years long history we are one of the oldest footwear manufacturers in Croatia. The factory was founded on the remains of old leather tannery that dated back for 300 years.

Over the last 40 years we have specialized in the production of professional and safety footwear for oil, forest, shipyard, construction, metal, electronics and other industries.

Obuća VIKO has rounded the chain of production - we own a leather tannery, sole production and shoe factory, and because of that we can always answer to our clients demands promptly!

Our capacities are:

- leather production: cca 40.000 m² per month
- shoe production: 25.000 pairs per month

In our leather tannery we mostly produce the following types of leather:

- cow box
- nappa
- nubuk
- split box
- split suede

Our constant monitoring of latest technical and technological accomplishments in the area of special materials and years of experience in shoe production ensures our customers wear-

ing comfort and a sense of safety.

VIKO footwear can be made from the following components:

- upper part: water-repellent natural cow leather
- lining: natural leather, special textile waterproof and steam-permeable membranes, special textile membranes with termoregulating capsules
- insole: anatomic, leather or textile
- sole: polyurethane - glued, polyurethane and vulcanized rubber - glued polyurethane and vulcanized rubber - injected

In 2005, the Croatian Chamber of Economy awarded VIKO with the right to use the Sign of Croatian Quality. The Sign can only be worn by Croatian products whose characteristics (composition, design, environmental criteria) ensure high quality. Obuća VIKO became the first Croatian manufacturer of protective footwear whose products carry the prestigious mark.

Footwear produced under VIKO brand satisfies the requirements and standards of European Union (CE mark) since 2008.

In 2008 we met the requirements of ISO 9001:2000 quality management system, which is today the most widely accepted international standard.

We are one of key suppliers of military boots for Croatian soldiers.



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www.viko.hr

There are three types of military boots - winter, summer and desert boots.

All boots are made of soft natural water-repellent cow leather (beige velour leather in case of desert boots), with lining made of special waterproof and highly steam-permeable membranes. Sole is made of polyurethane (base layer) and rubber layer (wearing layer) and is resistant to slippage, oils and scuffing.

Boots were developed in collaboration with Croatian Armed Forces and the Faculty of Textile Technology to ensure maximum endurance, safety and comfort for our soldiers because we are aware of the fact that footwear is one of the most important element of military equipment.

Other countries have shown the interest in our boots and we hope that our products will become recognizable and reliable military boot for soldiers around the world!





Pastor



Pastor company's business rests on a 90-year tradition in manufacturing of portable fire extinguishers, fire protection equipment and fixed systems. Continuous research and development of services, product range and production technology, in accordance with the governing standards and regulations, expansion to new markets and dedicated investment in our resources and clients, describe Pastor's business mission, values and vision today best.

UAV Systems

MISSIONS:

- Forward area close range reconnaissance (ISTAR)
- Urban warfare support
- Artillery fire correction
- Convoy support and protection
- Special operations
- Battle damage assessment
- Peacekeeping operations

- Counter terrorism operations
- Force protection
- SAR
- Law enforcement
- Firefighting
- Disaster control management
- Nature control and protection
- Environmental surveillance
- Traffic control
- Pollution control
- Illegal immigration control
- Water management
- Agriculture and forestry
- Archeology
- Small area mapping
- PR and Media

SENSORS

- Visible spectrum video camera
- Digital camera (still)
- Thermal camera
- Infrared camera
- Various other sensors depending on customer needs



Fenix UAV

- Fenix is a fixed-wing, electric motor powered UAV designed for various missions and payloads
- Highly autonomous operation
- Real-time data transfer
- Preplanned mission stored in the computer
- GPS navigation
- Portable design - deployed and operated by two man crew
- Rapid deployment - from transport to flight in less than 5 mins
- Hand launch and recovery - deep stall landing

Technical data:

Endurance	60/90 mins
Operational range	1 - 5 km
Speed - max	150 km/h
Speed - min	20 km/h
Operational altitude	300/1000 m
Hand launch/recovery	
Weight	4,1 kg
Wingspan	3,75 m



ZOON UAV

- Multi-rotor helicopter
- Extremely quiet electric propulsion

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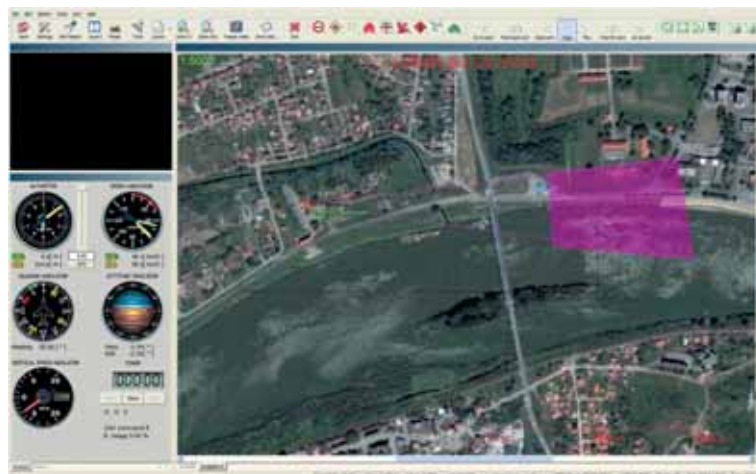
- Six engine concept for exceptional reliability
- GPS assisted
- Real time data transfer
- Altitude and position lock capabilities
- Gyro-stabilized, gimbaled payload
- Very low signature
- Man-portable system
- Operated by two men crew
- Rapid deployment

Technical data:

Flight duration	15 min
Operational range	500 m
Speed	0-50 km/h
Operational ceiling	300/1000 m
Hand launch/recovery	
Weight	1.4-3 kg
Size (diameter)	60 cm

PUMA Software

Data: Integration - Processing - Storage - Distribution
 Task (mission): - Planning - Control
 Own development in C ++
 Adaptable to different devices and communication systems



YOU know your NEEDS.

We know how to adapt our systems to suit YOUR NEEDS

PCE Split



The Company owns a business building and few facilities of total area about 4.000 square meters, divided into:

Development unit
 Projecting and construction unit
 Service and manufacturing unit
 Gage laboratory
 Workshop for equipping and servicing of special vehicles
 Class-room
 Library
 Apparatus shop
 Tool room
 Warehouse
 Infrastructural plant

The PCE Company also has:

- Gage and other elec. equipment of estimated value of 10 million Euro
- Applicable software for system that operate in so-called "real time" (QNX, VRTXOS, SPOX,...)

- Experts with the experience in working on highly sophisticated electronical systems of high technology used by world-wide known companies.

In our company leading experts of electronics - hardware & software - are working, able to perform as follows:

- development - projecting
- manufacturing - servicing

POSSIBILITIES

- projecting and developing hardware and software for new electronic systems
- integration of electronical systems (hardware & software) of different manufacturers and different technologies
- manufacturing of complex electronic systems
- projecting and installation of the electronic systems on ships and other objects
- work out of development studies of electronic systems (in county and country wide)
- installation of electronic systems on the ships of different size, kind and assignation and on different objects on shore



- technical maintenance of electronical systems on floating and terrestrial objects
- measuring, regulation and fixing of gage instruments of electrical dimensions in the field of frequencies from 0 Hz to 22 GHz
- safety testing of electrodomestic apparatus and RSO
- testing of electromagnetic compatibility of electronical devices
- training of specialised maritime experts in usage and maintenance of electronical systems

SYSTEMS

- VF, VHF and UHF radio-communications
- systems of internal electroacoustic bond
- internal TV systems
- navigation and observation radars
- special assignment radar systems
- hydro-acoustic sounder
- sonar, ship compass and gyroscopic compass
- maritime radio navigation systems
- automatic steering systems
- automatic ship control
- info and extinguishing fire system
- ship electroenergetic converter of voltage and frequency
- special assignment electronic systems

INSTALLATIONS

- electronic systems on ships of all assignments and in all shipyards in the country and abroad
- electronic systems of commercial and special assignments ashore and inland
- el. systems onto vehicles of commercial and special assignment
- installations according to our own projects or manufacturer's instructions, using tools and materials conformably to the world and European standards
- assembling, regulation and check up of the main characteristics of devices

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fax: +385 21 495 679
e-mail: pce@pce.hr
www.pce.hr

- final deliver control of electronic systems together with shipowner or beneficiary

PROJECTS

- installation of complex electronic systems of commercial and special assignment on floating and terrestrial objects
- installation of reciprocal binding of different electronic systems
- installation of navigation systems on ships of all sizes and assignments
- installation of ashore radar watching system and radio connections
- idea, main and construct project (with choice of devices present on the market, device binding scheme within device itself and with other devices, instructions for special regulation and control of the main characteristics of a device)

DEVELOPMENT

- software applicated in systems that operate in so called real time (RTOS) and in systems of special assignment, and in industrial automotive & regulative system
- software applicated in systems that operate in real time with distributed computers and software of the same type that uses distributed data basis
- non-standard hardware very difficult to find on market (Radiometric A/D converter, multiplex A/D and D/A, Scott, inverse Scott, phase sensitive detectors..)
- wide applicable hardware in industry (concatenation systems controlled by micro-controller and micro-computer)
- single board computer hardware according to buyers' requests
- software and hardware needed for modification of the existing systems

PRODUCTS

- prototype of electronic devices developed in the PCE Company

- series of electronic devices manufactured according our own or some other project
- different complex electronic systems (all our products correspond to world and European standards and have been highly controlled)

- The production of PCE-Split includes:
 - MFC
 - KRIPTEL

MAINTENANCE

- of sophisticated electronic systems of special assignment on ships and ashore, on call or by contracts on continuous maintenance
- of electronic navigation devices used on merchant, passenger and sport ships
- of electronic radar watch system and telecommunication systems
- of electronic systems in commercial cars or special assignment vehicles
- preventive maintenance of electronic systems

MEASUREMENT

- calibration of multimeters of all classes of accuracy
- generator's signal from 100 uHz up to 26 GHz
- frequency measurement from 100 uHz up to 26 GHz
- signal analyzer
- oscilloscope
- measuring of electricity of prototype
- analysis of electronic devices
- gage laboratory has the equipment according to DIN-EN 45001 standards and it has all authorisations from the State Institute for Measurements and Norms of the Republic of Croatia

MULTI - FUNCTION CONSOLE

MFC multi-function console is a high-performance user interface provided for host applications such as fire control systems, combat systems, sonar systems, C4I systems and other graphically intense tasks.

It enables:

- high resolution display of graphical information, combined from different sources

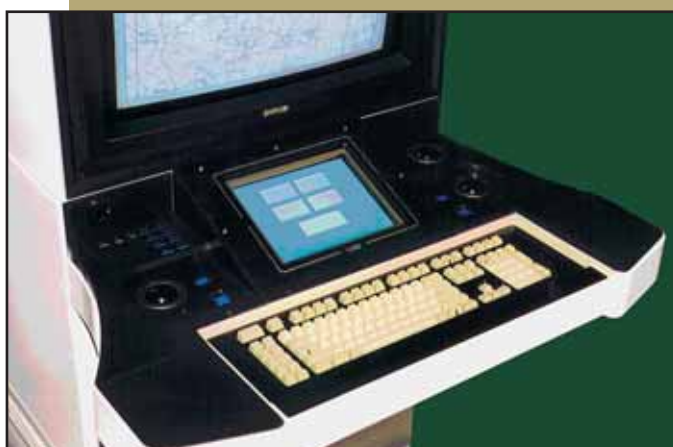


- simple and effective input of displayable data
- flexible and efficient communication
- fast data processing, due to DSP algorithms
- generating data bases

MFC functioning is based on powerful general-purpose computer of commercial-of-the-shelf type, based on the VME standard. It is designed to meet relevant military requirements for harsh environment.

Typical application of MFC console includes:

- Graphical presentation within X-windows environment radar and video signals from different sources as: analog and digital radar signals, analog and digital signals from TV or infra-red cameras, synthetic signals as different tactical symbols, maps e.t.c.



- User data input by means of programmable touch-screen which enables the use of the system through more levels of hierarchical menus, data input with standard keyboard rolling-ball or dedicated function keys.
- Communication of MFC console with other elements of system by means of Ethernet local network, modem communications, ATM communications or X.25 protocol.

MFC console offers systems integrators very flexible component of high quality, which use is based on few defined industry standards.

Technical Specification

Computer:

Sun SPARC, VME bus, HD 4 GB, RAM 32 MB

Peripherals:

Touch-mask screen 10", 640x480 pix, colour TFT-LCD

Keyboard QWERTY 101 key

Rolling-ball

Display:

CRT 29" Resolution - 2.048 x 1.536 pix

Colours - 256

Video RAM levels - 8 + 8

Inputs:

Radar- 2 analog + 3 digital

TV/IR- 10 analog + 2 digital

Communications:

Ethernet 10 Mb/s

Ethernet 100 Mb/s

RS 232/422/485

Dimensions:

Height: 1510 mm

Width: 700 mm

Depth: 1145 mm

Weight: cca 240 kg.

Mechanical design of console can be customized to specific user requests.

VOICE AND DATA SECURE COMMUNICATION EQUIPMENT Kriptel P96

- Protected voice communication using standard telephone line
- Protected communication using Ethernet10 local area network
- Protected voice and data over Internet global communication network
- Protected voice and data simultaneously
- High voice quality compress algorithm CELP 4800
- High secure DES algorithm
- All functions enable starting at 9600 bps transfer speed



KRIPTEL P96 is high technology equipment for voice, and data transfer in open or cipher mode. Connection can be obtained using standard telephone line or/and Ethernet10 LAN.

This new feature gave us more functionality in term of simultaneously using analog public switching telephone network, and Internet global communication network. That is not all, because the next feature is interesting too.

This is mixing voice and data at same time.

We can make local connection between PC and KRIPTEL P96, and with our software work on file transfer, terminal connection, or exchange simple graphics in speaking time. A voice quality in comparison to other compress algorithm and communication speed is very good, which mean you can recognize a person, by his (her) voice tonality, on other side.

The cypher mode has some specifics too. The DES algorithm is basic crypt algorithm (1,9*10 keys). In addition, we have dynamic changing crypt keys, generating by random generator three times in second, and protection for playback message.

POSSIBLE CONFIGURATION:

USE WITH STANDARD PUBLIC SWITCHING TELEPHONE

In this configuration we can use a phone in normal conditions. The cypher mode is started by simple push on a specified button in speaking time, and after voice message about accomplishing protected mode is received one can continue communication.

COMMUNICATION OVER THE INTERNET IS OBTAINED BY TEL. LINE OR ETHERNET10 LAN

This configuration shows us many connection possibilities.

You can see three examples:

In the first example the KRIPTEL P96 has connections on the Internet using a standard telephone line. A voice connection can be made to user 2 or 3. We are able to make connection in terms of configuration 1.

In the second example user has access to the Ethernet10 local area network, and to the analog by voice or/and data, because of PS connection.

In the third example the user has access to the Internet via public Internet server, and can communicate by voice or/and data.



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IBO-1

NAME OF PRODUCT	MASS (g)	NUTRITIVE VALUE (kcal)**
Beans with sausage	400	588.80
Luncheon meat	200	358.00
Chicken pâté	100	285.60
Instant soup with beef flavour	18	59.04
Flower honey	40	129.60
Coffee comprimates	40	156.80
Instant drink with natural orange flavouring	30	105.60
Instant black tea with lemon flavor, enriched with vitamin C	30	114.00
Papaya	50	173.85
Pineapple rings	50	167.85
Dessert chocolate	50	261.70
Honey biscuit	60	257.10
Cookies	255	1,048.86
TOTAL	1,323	3,706.80

****on product net mass**

Podravka is one of the largest food companies in the Central, Eastern and South Eastern Europe while Belupo, owned by Podravka, is the second largest pharmaceutical company in Croatia.

IBO-3

NAME OF PRODUCT	MASS (g)	NUTRITIVE VALUE (kcal)**
Beans with pork	400	660.00
Turkey luncheon meat	150	336.00
Sardines in vegetable oil	115	198.50
Pork pâté	100	314.00
Instant soup with beef flavour	18	59.04
Flower honey	40	129.60
Coffee comprimates	40	156.80
Instant drink with natural orange flavouring	30	105.60
Instant black tea with lemon flavor, enriched with vitamin C	30	114.00
Papaya	50	173.85
Pineapple rings	50	167.85
Dessert chocolate	50	261.70
Pepper biscuit	60	264.00
Cookies	255	1,048.86
TOTAL	1,388	3,989.80

****on product net mass**

Podravka has two core businesses: food and pharmaceuticals. Podravka's most famous brand is Vegeta, universal food seasoning, which is sold in more than 40 countries in the world. Podravka has its own companies and representative offices in 22 countries and production facilities in Croatia, Poland and Czech Republic. Its strong distribution network spans from Adriatic to Baltic Sea, bringing it closer to its consumers in international markets. Along with the production and sales in the region, Podravka has built strong strategic alliances on individual markets and is distributing products of its partners through its developed distribution network. Over the years, Podravka has created numerous brands which the consumers recognize by their supreme quality. Most

famous brands are Podravka, as the umbrella brand, Vegeta and Lino, baby food and cream spreads brand. Podravka is a synonym for quality & taste, a variety of choice, simplicity in use, innovation and culinary creativity.

Podravka's mission:

Providing innovative culinary experience and healthy living solutions for you.

Podravka's vision:

Dedicated to improve everyday quality of life for our consumers, customers and employees by being innovative and international.



Protekta

COMPANY PROFILE

The company PROTEKTA from Varaždin is a company producing and trading the devices, products and equipment for defence and protection from nuclear, chemical and biological (NBC) weapons in the narrow sense and for defence and protection from nuclear, radiological, chemical and biological threats and explosives in a wider sense for the needs of civilian sector (industry, environment protection, security companies, scientific institutions, medical institutions...) and defence - safety and protective sector (military, police, fire brigades, civil protection and other subjects in the rescue and protection system and specialized teams, units and institutions...).

Company PROTEKTA is:

- officially registered for export, import and sales of military goods
- officially registered for export, import and sales of closed radioactive sources and X-ray devices
- has a certificate for implementation of Internal Compliance Program (ICP) based on U.S. Department of State Export Control and Related Border Security (EXBS) Program
- has a Facility Security Clearance Certificate (FSCC) for a NATO CONFIDENTIAL clearance and possesses storage capabilities approved for the safeguarding of classified information up to NATO CONFIDENTIAL.

Organization and activities of company PROTEKTA provide complete information and service to our potential and future customers, but also experts and citizens related to material-technical means, equipment and devices which are used in defence and protection against weapons for mass destruction (WMD), nuclear, chemical and biological (NBC) weapons as well as all other radiological, chemical and biological agents which are a threat to modern community.

CUSTOMER CONSULTATION • PRODUCT PRESENTATION • SYSTEM INTEGRATION • CUSTOMIZATION • EQUIPMENT UPGRADE • EDUCATION • SERVICE, MAINTENANCE AND REPAIR OF CBRN PRODUCTS/EQUIPMENT

SALE AND SUPPLY:

Equipment for detection and identification

- Chemical detection (IMS) and identification (FT-IR, Raman, GC/MS)
- Biological detection and identification
- Radiological detection, identification and dosimetry
- Mobile laboratories
- CBRN reconnaissance vehicles
- Integrated CBRN systems for warning and reporting

- Systems for CBRN, Gas and HazMat simulation
- Tactical and non-tactical weather monitoring systems
- Protective equipment
 - Personal protection
 - Personal and collective Decontamination equipment
 - Shelters
 - Testing equipment

- Medical equipment (medical protection against CBRN threats)
- IT equipment and software (CBRN warning and reporting...)
- Disposal, management and neutralization of explosive devices

DEVELOPMENT AND PRODUCTION:

- Protective Coat - PONCHO „C“

The material used for making the Poncho has been tested by the Chemical & Biological Defence Establishment at Porton Down, England and by the TNO Defence, Security and Safety, the Netherlands. Poncho is in regular service in Armed Forces of Republic of Croatia.

a) for body protection against chemical contamination made by chemical agent drops and to prevent the NBC sedimentation on clothing, weapons and equipment.
b) when not used as protection against chemical agent's drops it can be used as protection against various weather conditions e.g. rain, snow, wind. Because of its good mechanical properties it can be used numerous times for training purposes.

- Personal radiological dosimetry system (still in development), which consists of improved personal dosimeter developed by Ruđer Bošković Institute and optoelectronic dosimeter reader which is completely designed by our employees and professional associates.

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www.protekta-cbrne.hr

PROTECTIVE COAT - PONCHO "C"

PROTECTIVE COAT - PONCHO •	is used for the body protection against chemical contamination made by the chemical agent's drops, as to prevent the radioactive dust sedimentation on the clothing, weapons and the equipment. It does not protect against the chemical agent's vapours. For the purpose of the protection against chemical contamination made by chemical agent's drops - it can be used ONLY ONCE.
PROTECTIVE COAT - PONCHO •	is made in unique size
PROTECTIVE COAT - PONCHO •	exceptionally lightweight - weight is approximately 400 gr.
PROTECTIVE COAT - PONCHO •	dimensions before use e.g. before placing to protective point is approx. 200x200x30 mm
PROTECTIVE COAT - PONCHO •	when not used as protection against chemical agent's drops it can be used as protection against various weather conditions e.g. rain, snow, wind. Its good mechanical (physical) properties allow it to be used numerous times for training purposes.

Basic characteristics of the Material:

The Material is coated with polymer and:

- is 100% particle tight
- Resists up to 2 bar liquid pressure
- Gives good permeation resistance for many inorganic chemicals
- Protects against body liquids and micro-organisms
- Tough yet lightweight (83g/m²)
- Color: - outer: olive green, yellow
- inner: white



Material Barrier properties

Agent Challenge	Breakthrough time (hours) Liquid Penetration	Remarks
Unthickened Sulphur Mustard	> 48	No pressure applied
Thickened Sulphur Mustard	> 48	No pressure applied
Unthickened Sulphur Mustard	> 48	20kPa for 5 mins
Thickened Sulphur Mustard	> 48	20kPa for 5 mins
Lewisite	> 48	Test at 20°C

The Material has been tested by the Chemical & Biological Defence Establishment at Porton Down, England and by the TNO Defence, Security and Safety for liquid penetration with mustard agent (HD).





RedTech



RedTech Ltd. is a military diving equipment and education company specialized in producing and distributing military diving equipment: combat dry suits, buoyancy compensators, underwater dry containers, scooters, and mixed gas air supply systems.

A wide range of diving courses and training skills are available for Special Forces and Amphibian units. From a wide range of our products displayed at the Adriatic Sea Defence & Aerospace Exhibition, the company presents new and innovative products: the waterproof transport bag - "RedTech CVB2", military dry suit and portable mixing unit for field operations - "PMU".

The RedTech Combat Vacuum

Bag (CVB2) is a modular system which incorporates two main components; a buoyancy compensator and a waterproof transport bag. The CVB2 is designed to transport equipment during swimming or diving when the diver is equipped with a rebreather apparatus which is located on the chest (Dräger Lar V, VI, etc.). The waterproof bag can be vacuumed or inflated. The main advantage of the bag, when vacuumed, is that it achieves stability and reduces the volume and buoyancy of the bag. The choice between vacuum and - or inflation option depends on the type and weight of the carried equipment or payload, being also dependant on the method of transport. The waterproof transport bag can be quickly and easily separated from the buoyancy compen-

sator. If transported outside of water, the transport waterproof bag can be carried like a backpack since it is provided with its own harness system. With the use of an additional RedTech military equipment accessories, the CVB2 can be quickly and easily transformed for use with an open circuit or any other type of rebreather apparatus. RedTech also provides the possibility of education and training for the use of the buoyancy compensator and the waterproof transport bag.

The RedTech Military Dry Suit is designed to fulfil the needs of military and technical divers. The aim of its design is to give maximum comfort and movement flexibility, to provide minimal resistance while swimming and walking, and in the same time to increase the durability and resistance against mechanical abrasion. The dry suits are fabricated from butyl trilaminate and reinforced by Cordura on shoulders, back, elbows, knees and buttocks. These specially designed reinforcements ensure durability and incre-



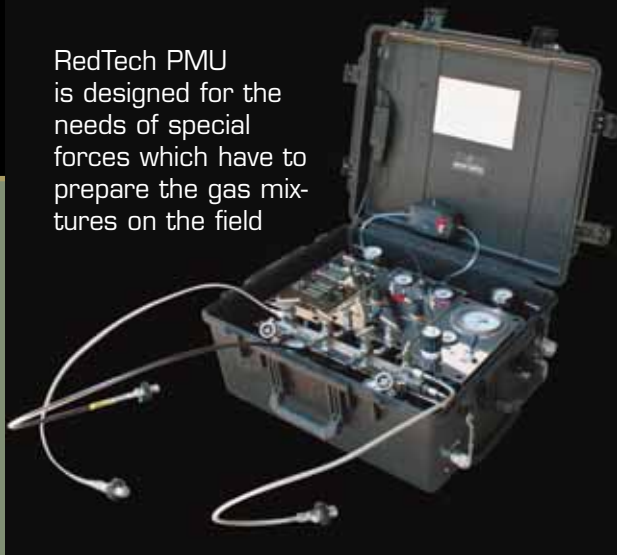
RedTech DRY SUIT

Designed for the needs of military and technical divers

RedTech CVB 2

modular system - buoyancy compensator and waterproof transport bag

RedTech PMU is designed for the needs of special forces which have to prepare the gas mixtures on the field



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ase the strength of the material during demanding dives and missions without compromising the agility and mobility, which in return causes less effort during long swims. The dry suit includes the latex or neoprene collar and wrist seals, a hood fabricated from elastic neoprene, and a diagonal dry zip with an additional regular black zip which covers and protects the main dry zip. The position of the diagonal zip enables easy donning and improves the diver's agility. The elastic back insert grants flexibility in all positions and adds additional comfort while swimming or moving on land. A pocket located on the right thigh contains a stainless steel D-ring. The socks are made out of crush neoprene so the user may wear various types of boots, depending on the mission requirements. The dry suit is made according to high standards following the RedTech design, in cooperation with Bare Europe Ltd.



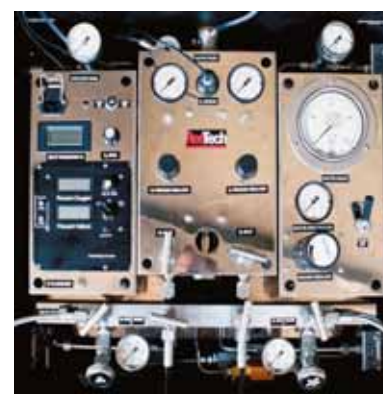
RedTech Portable Mixing Unit

(PMU) is a portable system for preparation and supply of all types of diving mixed gases: Air, Nitrox, and Trimix. It is designed to provide fast and simple workflow in conditions of field operations due to its small dimensions and low weight, and accommodate the needs of special forces divers who need to prepare the gas mixtures on the open field, small boats and other mobile diving units. RedTech designed two versions of their PMU. RedTech also provides the possibility of education and training necessary for using the PMU mixing system.

PMU 02 Portable Mixing Unit version consists of a heavy duty plastic portable box which holds the air filter for filtering and preparing degreased air (in case there is contamination from the compressor), analyser panel with electronic oxygen percentage control system, mixing panel for continuous mixing of Nitrox (up

to 40%) and all Trimix blends, air-driven booster pump (up to 200 bar), master gauge class 1/100.mm for precise partial pressure measuring, filling ramp with 4 outlets (for diving tanks), hoses with quick connectors for O₂, He and air. The unit can prepare the Nitrox and Trimix breathing mixtures using different methods: partial pressure, continuous mixing, and mixing by partial pressure using oxygen/helium booster pump up to 300 bars. Working pressure for continuous mixing of all Trimix and Nitrox mixture up to 40% O₂ is 330 bar. Working pressure for the oxygen booster pump and Nitrox mixtures over 40% O₂ is 220 bar. The mixture process is controlled by two sensors: one is located at the PMU intake, and the other at the mixture outlet. The PMU can also serve as a gas analyzer. Dimensions of the box: 632 x 602 x 333 mm Weight: 32 kg

PMU PP version is a simpler version, designed to work without the need of any additional source of electricity. It is placed inside a heavy duty plastic portable box which holds the air filter for filtering and preparing degreased air (in case there is contamination from the compressor), air driven booster pump for Oxygen pumping up to 200 bar, master gauge class 1/100.mm for precise partial pressure measuring, filling ramp with 4 outlets (for diving tanks), houses with quick connectors for O₂ and air. It ensures blending and mixing of Nitrox, Oxygen and other standard NATO mixtures using the partial pressure method or the partial pressure method using the air driven oxygen/helium booster pump. The working pressure of the Oxygen booster pump is 220 bar. Dimensions of the box: 632 x 602 x 333 mm Weight: 22 kg



RIS MARINE



Ris Marine

Ris Marine Ltd has been in business since 2007. and in a short time we have realized great successes and our products have led to a high level of quality that is the primary characteristic of our products which is provide the wide palette of boats widespread across the Adriatic and wider.

Ris Marine Company was founded in 2006, and we started operating business activities in 2007. Since then the company has grown steadily in revenue and increase the number of customers in the domestic and international markets. Company activity is the production of pneumatic boats for pleasure and sport boats, and two groups of products from rubber boats for recreational purposes to the specialized boats for special purposes.

With constant improvements, modernization of production and due expert guidance by Mr. Franjo Koturic which were conducted a strong vision for the progress of the Croatian shipbuilding industry it is our intention to continue to expand our offer and stay





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a valued partner in the country and abroad. Our vision is to be recognized for providing high-quality products and to grow in the domestic and international markets, and our ultimate mission is to meet the criteria of our customers and make them happy and satisfied with our products. Our attributes are quality, creativity, innovation, flexibility in adjustments to partners, the mutual respect within the company which eventually results in customer satisfaction. Indicators of business success are certainly worked jobs for the Ministry of the Interior, the Ministry of Defence, the Public Fire Service, the Mountain Rescue Service, the oil company, diving clubs in Croatia and abroad, passenger transportation, boat rental, National Protection and Rescue, Philip Zepter Ltd. Yacht, Emergen Sea and other smaller private customers at Croatia and abroad. Our latest products are RM 599 Rescue boats made in compliance with SOLAS.



RIZ Professional Electronic



RIZ PROFESSIONAL ELECTRONIC Co. specialized for tactical military radio-communication was founded in 1963 as part of RIZ Co.

The present RIZ PROFESSIONAL ELECTRONIC Co Ltd. (RIZ PE Co. Ltd.) is a newly constituted company, independent of the former RIZ, established in order to continue RIZ's long tradition of producing military and public equipment, based on acquired experience and highly skilled staff.

The premises are furnished by fully automatic, computer controlled test sets for final testing and have laboratory equipment for climatic, mechanical and other testing in accordance with MIL Standards.

Business activity

The development, design, manufacture, assembling, maintenance and servicing of all sorts of short wave and high frequency radio stations and equipment in the military frequency area, especially those produced in RIZ. The development and production capabilities include the civil electronic sector and other activities.

RIZ PE Co. Ltd. is open for any other cooperation in scope of its developing activity.

HF SSB Military Radios

Short-wave SSB transceivers 2-30 MHz, power output 20 and 100 W. Simple operation, possibility of using a wide variety of antennas without adjustment of controls, meet a full range of tactical communication requirements.

- RU-20 HF/SSB Transceiver Pack Set
- TRC-20H HF/SSB Frequency Hopping Transceiver
- RU-100 HF/SSB Transceiver
- RECOMM-200 Radio-Error Correction Modem

Battery Chargers

- PA-25 Trickle Charger
- PA612A -1/2
- A 4805/1
- A 1750



HF/SSB Frequency Hopping Transceiver TRC-20H

The TRC-20H is a military manpack HF/SSB transceiver with integrated frequency hopping concept. It is interoperable with the existing HF/SSB or AM radio sets without integrated hopping, operating in the same frequency range (RU-20 and similar).

The equipment has possibility of memorizing 10 channels. The TRC-20H can be associated to constitute fixed or mobile radio station. Integrated frequency hopping concept provides communications protected from listening-in, intrusion and localization. The frequencies are generated by a synthesizer controlled by a highly stable oscillator.

frequency range:	2-30 MHz
output HF power:	20 W PEP in normal power (2W PEP in reduced power)
antennas:	whip (up to 3 m), dipole or other 50 Ohm antenna
hopping mode:	pseudorandom
hopping bandwidth:	from 32 kHz (on the lowest reference frequencies) to 2 MHz
frequency stability:	$\pm 0,8$ ppm
consumption:	less than 2,75 A
power supply:	25 V nominal in range 22 to 30V DC
transceiver weight:	6,3 kg
dimensions (with battery):	360x320x90 mm

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Base for one device PUS-12

PUS-12 serves for operating the device ITT SINCGARS on external power supply of 12 VDC.

Connectors for connection of the CDU, GPS antenna and external power supply are placed on this base.

Girder of the device has shock-absorbers so that the set is suitable for fitting into vehicles. PUS is manufactured in versions for 24 VDC and 220 VAC.

Composition of the set:

1. Base of the device
2. Girder MTK and CDU
3. Cable for external power supply

Characteristics:

- working temperature	25°C +55°C
- humidity at 20°C	90%
- storage temperature	-40°C +70°C



Voltage converter PN 12-24

Voltage converter PN 12-24 serves for power supply of the device in case when electric installation in the vehicle, cabin and other is 12 VDC. The converter is protected from short circuit and overload.

Characteristics:

- intake voltage	8-16 VDC
- intake electricity	25 A (8V intake)
- output voltage	24 VDC $\pm 2\%$
- output electricity	8 A nominal
- efficiency	97 % at full overload
- frequency	250 kHz
- working temperature	-25°C +55°C
- humidity at 20°C	90%
- storage temperature	-40°C +70°C



LF amplifier NFP-5

LF amplifier NFP-5 serves for amplifying LF signals from the device. Power of the amplifier is 5W. The casing is water-resistant. It is delivered in a set with power supply cable and audio cable for connecting to a radio device.



GPS adapter GPSA

GPS adapter serves for connecting GPS antenna with transporting version of the device ITT SINGGARS.



Storage battery BB-590/U

Storage battery BB-590/U is Ni-Cd chargeable battery that consists of two sections. Sections can be connected in a series (24V working mode) or parallel (12V working mode). The battery serves for power supply of the radio device: SINGGARS PRC-119, PRC-104, URC-200. It is fitted into and is used in any position during charging, discharging or storage.



Helmet phone KF-1

The helmet phone KF-1 consists of a helmet (ballistic shell), special textile cap fitted into phono-set for tank crews, armoured transporters and other combat vehicles in which intercom device is fitted into, allong with radio stations. It serves for mechanic and acoustic protection of users' heads and for realization of interphone and radio connection.

Characteristics:

- working temperature -25°C +55°C
- humidity at 20°C 90%
- storage temperature 40°C +70°C
- omsk resistance of the laryngophone 2 8 - 3 4 Ohms
- omsk resistance of the headphone 600 Ohms

helmet

- ballistic protection V50=450/550 m/s MIL 662
- helmet ballistic shell
- material Aramid
- mass 900 g

Charger of storage batteries PAV 25-20 P



PAV25-11P is a device with a modern concept that serves for charging two led storage batteries linked in a series by means of "gel" electrolyte.

The device works on a principle of interrupting the corrected high frequency network voltage and transformation and correction of the desired output voltage. Maximal output voltage and charging current are factory-set at 28,5V and 20A.

The device and storage battery are protected from incorrect connection of storage batteries in a manner that the output voltage is not present on output sockets until the storage battery is connected properly.

Three LED indicators are on the side part of the device: ON - green, OUTPUT VOLTAGE - red and CHARGING - red.

The device is placed in alumina housing with a cover and they are interlinked with bolts. Hooks for connection with shock absorbing base for installation.

RIZ Transmitters

RIZ-Transmitters Co. is a Croatian company established in 1948 for production of radio broadcasting equipment. Today, RIZ-Transmitters Co. is a successful private joint-stock company which has concentrated research and manufacture department on the 8600 m² at the home address in Zagreb, Božidarevićeva 13

With over 1000 high power radio transmitters (SW, MW), produced and installed in more than 45 countries world-wide, at all altitudes and climate conditions, we are ranked among the major world manufacturers of this type of equipment.

Longtime devoted work and efforts of our R&D department have led to development of new generation of SW and MW transmitters.

FIDELITY line totally MW transmitter series provide enhanced overall efficiency (typically 92%) and exceptional audio performances. High reliable SW transmitters, up to 500kW, are supplied to all major world broadcasters.

Our short and medium wave transmitters are capable to transmit digital signal in accordance with DRM standard. RIZ-Transmitters Co is a member of the DRM (Digital Radio Mondiale) foundation from the very beginning of its establishment.





RIZ-Transmitters Co. is the very first world company which developed a new generation of HIGH POWER MOBILE SW and MW transmitters up to 300 kW. Over the past 20 years we have delivered and installed a number of them, operating as fully autonomous units at various climatic and environmental conditions. Independently of geographic determinations each of such mobile stations is ready to go on-air within a very short period of time.

Production Program:

Stationary:

- Medium-Wave 1 to 2000 kW
- Short-Wave 1 to 500 kW

Mobile:

- Medium-Wave up to 300 kW
- Short-Wave up to 100 kW



Contact:

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RIZ-Transmitters Co. provides total solution for a turnkey project, supported by a qualified team of experts, engineers and technicians for design, construction, production, installation, testing, putting-into-operation, factory and on-site training.

The consulting services for design of new broadcast networks as well as consulting and support in preparation for new radio broadcast tender projects our company satisfy the most specific customer requests

Additional Services

Customer satisfaction is our top priority. RIZ is open for any question, suggestion or opinion our customers might have.

RIZ has extensive experience in **turn-key projects** which include **additional services** like:

- Systems planning
- Optimal site choice
- Antenna diagram design
- Civil engineering design
- Building construction
- Installation of equipment
- Putting into operation

SCAM Marine

S CAM Marine d.o.o. is a private company established in 1989 as a workshop manufacturing hydraulic steering equipment and repairing-reconditioning marine engines.



Today, the company is manufacturing and exporting marine engines, marine generators, high quality boat equipment with optimal prices on domestic and world wide market. The company follows its own development based on many years of experience and well trained personnel. Design and high precision CNC machining is based on using modern CAD-CAM software. SCAM Marine has its own aluminium alloys foundry.

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In 1991 company launched the sniper rifle MACS cal.12,7X99 in version M2, with single ammo action, for the Croatian Army. MACS sniper rifle was used during the Croatian homeland war. This sniper rifle is robust, reliable and highly efficient and proven in real conditions in the battlefield. Today, MACS sniper rifle is produced in improved version M4 with 5 round detachable magazine. Notable improvement has been achieved with the company-designed muzzle break, which has considerably reduced the flash and extremely reduced the recoil force.

Foto: aalan.hr



Sniper Rifle MACS M4 - 12,7X99mm TECHNICAL SPECIFICATIONS

Caliber	12,7mm
Operation.....	single bolt action
Rifle length.....	1480mm
Barrel length.....	782mm
Barrel groove number.....	8
Barrel groove pitch	380mm
Barrel groove direction.....	clockwise
Rifle width (without bipod and bolt handle)	90mm
Weight	14,5kg
Riflescope.....	3-12X50
Magazine	5 round, detachable
Effective range	1500m

Shipbuilding Industry Split Inc.



Shipbuilding Industry Split Inc. (Brodosplit d.d.) is located in Split, regional centre of east Adriatic coast and the second largest city in Croatia with history going long way back to the Roman emperor Diocletian. More significant development of shipbuilding in this area began by establishment of several smaller service shipyards and their merger in 1922.

BRODOSPLIT - Naval & Special Vessel Shipyard is one of the subsidiaries of Brodosplit Group, the one that Brodosplit can be specially proud of.

Over two decades of tradition in building sophisticated warships, submarines and special naval vessels gave us an outstanding position among the Croatian shipyards and among very few of such specialised shipyards at international level. The company is comprehensively equipped to design, construct, equip and test large-scale naval and special vessels, as well as to transfer the know-how and technology to the customer's shipyards. It has also all the facilities necessary to carry out repair, overhaul and maintenance of the special vessels, as well as manufacturing of high strength steel construction.

Having experience with various Navies, our expert teams are ready to give full after delivery support for: maintenance, training, marine support equipment and logistics. We are ready to respond to each particular requirement and to find tailor-made solution, including upgrade and modernisation of the projects from our production program as well as development of the new ones.

Our personnel include highly skilled technicians and professional engineers who are dedicated to their work. The yard facilities enable the construction to be carried out in a completely closed area having:

- Slipway hall for constructing ships up to 60 m length, 1000 t displacement, equipped with 7 cranes, the largest being capable of carrying max. 800 KN.
- Pre-assembling and assembling shops and open space area 34.000 m²

- Outfitting shop area 1.400 m²
- Storage shop area 1.900 m²
- Vertical hydraulic plant for bending of cylindrical and cone-shaped plates force=20.000 KN L.max. = 4 m, Th. max. = 140 mm
- Open slipway for constructing ships up to 120 m length
- Final outfitting dockside 200 m

NAVAL PRODUCTION PROGRAM:

Underwater vessels:

- Conventional torpedo submarines
- Midget submarines
- Diver's submersible
- Hyperbaric chambers

Surface vessels:

- Frigates up to 2500 t displacement
- Patrol boats and ships of various sizes (luxury motor yacht, police patrol, pollution control, rescue and salvage and similar)
- Logistic support vessels
- Landing ship - minelayers - 1000 t
- Painting work-ships

Throughout our long history we have built a wide range of high standard specialised vessels for domestic and foreign Navies. We are specially proud of the vessels built for Croatian Navy - two transport ships / minelayers (delivered 1993 and 1995) and one midget submarine (1996). BRODOSPLIT - Naval & Special Vessel Shipyard has accomplished complete overhaul of diesel-electric submarines up to 1000 t underwater displacement, ammunition transport ships and vehicle transport

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ship/minelayers, both up to 1000 t full load displacement.

Being experts in submarine technology and constructing ships that demand the highest level of technical input, we developed a project of fast aluminium craft for passenger transportation, the Coast Guard and navies. Some of the most significant naval vessels built in our shipyard are as follows:

88 T MIDGET SUBMARINE

This submarine is capable of carrying out commando-type missions as well as laying of acoustic-induction sea-bottom mines. It is also used for patrol and surveillance missions, clandestine transport of personnel and material, for training of submarines and combat divers. Four single-seat submersibles of R-1 type are accommodated under the light superstructure. Instead of submersible, four sea-bottom mines can be carried.



Main characteristics:

Length, overall 18,80 m
Pressure hull length 13,30 m
Pressure hull breadth 2,70 m
Displacement-underwater 88 t
Operating diving depth 105 m
Submerged speed, max. 8 knots

Speed, cruising - underwater 4 knots

Construction:

The submarine is of single-hull construction. The pressure hull is built of steel and light superstructure of reinforced polyester.

Propulsion System:

The submarine is driven by two DC electric motors. Electric energy is supplied by two groups of storage batteries, 128 links each. The batteries are charged from shore by 200 kW generating set.

Cruising range:

The cruising range at cruising speed is 200 NUM.

Complement:

Depending on tactical mission, crew is composed of 6 persons, or 4 persons plus 6 combat divers.

Navigation equipment:

The communication system includes: HF transceiver, radiotelephone, underwater telephone and sound-powered telephone for the submarine internal communication. The navigation equipment consists of: gyro compass, electromagnetic log, echo sounder, active sonar, passive sonar and periscope.

DIVERSIONARY SUBMERSIBLE TYPE R2

The diversionary submersible type R-2 is assigned for transport of two frogmen, underwater mines, diversionary equipment and underwater reconnaissance. It can be effectively used for antidiversionary protection of harbours and moorings, minefields and for detection and surveillance of enemy minefields.

Main characteristics:

Length, overall 4,90 m
Mass of equipped submarine 1400 kg
Speed, cruising 3,7 knots
Max. diving depth 100 m

Construction:

The hull is made of aluminium alloy resistant to sea water corrosion. Front upper part of the



submersible is made of plexiglass.

Machinery and electric:

The propulsion system consists of DC electric motor of 4.5 kW and storage battery 24V 192 Ah.

Navigation equipment:

Gyro magnetic compass for aircraft type, magnetic compass, echo-sounder, sonar, two searchlights, etc.

Cruising range:

The cruising range at cruising speed is 23 NM.

Armament:

Two underwater mines of 50 kg each.

LANDING SHIP - MINELAYER

The ship is a closed ferry type with a possibility of off-loading vehicles through fore and aft ramps. The basic purpose of the ship is to transport equipment armament for the naval infantry and its embarkation on roughly prepared sites, and possibility of laying of defensive mine fields.

The ship's revolving crane enables loading and off-loading of lighter cargo.

Main characteristics:

Length, overall 49,69 m

Length, on water line 45,03 m

Beam, max. 10,20 m

Height to main deck 6,40 m

Draught at normal displacement 2,62 m

Speed, continuous max. at displacement of 750 t 12,50 knots

Displacement, max. at draught of 3,2 m 1000 t

Payload 410 t

Construction:

The hull and the superstructure are made of higher strength shipbuilding steel in welded construction.



Armament:

- Two twin 30 mm guns

- One barrel AA gun 20 mm

- Four portable SAM launchers

Machinery and Electric:

The propulsion system consists of two four-stroke diesel engines with maximum continuous power of 1140 kW and two controllable pitch propellers (CPP).

Navigation equipment:

Gyrocompass, magnetic compass, echosounder, log, radar, etc.

Cruising range and autonomy:

The cruising range is to 1200 NM and autonomy is 10-12 days.

Complement:

The ship provides full accommodation for 41 person plus 8 auxiliary berths.

YARD 524 - "KATINA" - LUXURY MOTOR YACHT 60M

Owner: BRODOSPLIT NAVIGATION Ltd.

Main characteristics:

Length overall 60,00 m

Beam, moulded 10,68 m

Depth to main deck 4,50 m

Draught 3,10 m

Accommodation:

Passengers 12 persons

Crew 10 persons

The motor yacht is designed to carry 12 passengers for cruise in unrestricted service area as per class requirements. The interior configuration is designed to comfortably accommodate up to 12 guests overnight in 6 two bedded VIP cabins, comprising a master suite and 2 VIP staterooms. The yacht is also capable to carry up to 10 crewmembers onboard in 6

cabins to ensure a relaxed luxury yacht experience.

The yacht is certified in accordance with Croatian Register of Shipping Rules (CRS) and in accordance with LY2 code. Hull and larger part of superstructure are made of steel CRS grade A in welded construction. The superstructure above the Sun Deck is made of aluminum alloy.

Yacht is equipped with an ultra-modern stabilization system which reduces roll motion effect and results in a smoother cruising experience. This luxury yacht has installed two pairs of zero speed stabilizers which are operating on anchors, increasing on-board comfort when yacht is stationed, particularly in rough waters.

Fuel capacity enables cruise range of 4000 NM and supplies are enough for 7 days of autonomy. All passenger accommodation spaces and salons have luxurious interior and appropriate heating, ventilation and air conditioning system. Two four-stroke diesel engines, 2 x 1000 kW, driving 2 propellers through reversible reduction gears, enables max. speed of 13,7 knots. The propulsion plant is remotely controlled from wheelhouse.

The ship has a common aerial system, with satellite RTV antenna and antenna amplifier, arranged for receiving radio and TV programs with connection in all passenger and crew cabins, crew mess/day room, as well as in passenger salon.

There are two big salons in the yacht. Both of them may be used simultaneously as boardroom with possibility of accommodating 35 guests. The projector is hidden in the ceiling, and its output is projected on the motorized projection screen via motorized mirror system. There is a LED TV on the salons with a Blu-Ray player, a satellite receiver, a projection screens and a amplifiers et al. All electronic equipment is controlled through iPad touch panels. A special night atmosphere is created by underwater lights and illuminated yacht name.

Electric power is provided with 3 sets of Diesel Generators (and one emergency D.G), 24V DC are obtained from batteries and one



Transitional Power Supply (TPS-UPS with battery set) with shore connection is existing. Navigation systems includes: two X-band radars, DGPS, gyro compass, magnetic compass, autopilot, echo sounder, speed log, VDR, Navtex etc. External radio-satellite communication system is provided for GMDSS A3 area, with the modern satellite and terrestrial RTV system. Internal communication system consists of: public address system, talk-back system, internal telephone system and internet system.

YARD 501 - "PLANAC" - SEARCH AND RESCUE CRAFT

YARD 502 - "UMAG"

YARD 504 - "MARJAN"

Owner: REPUBLIC OF CROATIA

MINISTRY OF THE SEA, TOURISM, TRANSPORT AND DEVELOPMENT

MAIN CHARACTERISTICS:

Length, over all 14,45 m

Length, hull without platforms 13,10 m

Breadth, max. without fenders 4,64 m

Draught, max. 1,15 m

The fast boat's primary task is surveillance at sea and search & rescue. Fast boat is built according to the rules of Croatian Register of Shipping (CRS) for boats for commercial purposes and according to Germanischer Lloyd (GL) rules. It is made of sea-resistant aluminum alloy (AlMg4,5Mn), longitudinally framed, welded construction. Damaged stability requirements are satisfied. Two four-stroke diesel engines, turbocharged, electrically started, mechanically regulated RPM, maximal engine brake power 2 x 305 kW, driving 5-bladed propellers through reversible V-type gearboxes, enable service speed of 26 knots. Propulsion plant is remotely controlled from wheelhouse control console. Wheelhouse (with all-round visibility) and accommodation spaces are air-conditioned. Electrical power is provided from batteries (24V DC) and from diesel gener-



ator (220V, 50Hz, 8kW). Boat is equipped with radio equipment (1 VHF/DSC, 1 VHF, 2 VHF portable, 1 AIS transponder and 1 NAVTEX). Navigation system consists of: 1 radar, 1 GPS, 1 magnetic compass, 1 echo sounder/speed log.

Accommodation is provided for 2 crew members and 12 passengers/survivors. In addition, there are 2 singleberth cabins and 1 auxiliary berth. Fuel tanks capacity enables range of 400 nautical miles (NM), at 23 knots speed. Stores enable 7 days autonomy. This boat can also be used as oil spill control boat or fire fighting boat, by mounting specific equipment at working deck onto stern.

YARD 587 - "POJIŠAN" - SEARCH AND RESCUE VESSEL

YARD 588 - "VID"

YARD 589 - ŠIBENIK"

YARD 590 - "DAN E"

**Owner: REPUBLIC OF CROATIA
MINISTRY OF MARITIME AFFAIRS,
TRANSPORT AND COMMUNICATIONS**

Search-and-rescue vessel's primary task is search, rescue and recovery of survivors and sea surveillance. The vessel is capable of berthing to every type of vessels in order to retrieve patients, delivery of devices and equipment and embarkation of maritime authorities.

MAIN CHARACTERISTICS:

Length over all 18,24 m

Length, hull 18,08 m

Breadth, max. 5,90 m

Draught, max. 1,60 m

Vessel is built according to Croatian Register of Shipping Rules, and classed:

Hull * 90 A1 3 Javni brod SD

Engine * M1 AUT3

Hull is made of steel, and superstructure of sea resistant aluminium alloy; welded construction.

Damaged stability requirements are also met. The service speed of 24 knots is enabled by propulsion

system consisting of: two 4-stroke diesel engines, each having MCR 610 kW, reversible gearboxes, and fixed pitch 5-bladed propellers. Control consoles are in the wheelhouse and at flying bridge. Electrical resources are: 24V DC batteries and 220V, 50Hz diesel generator.

Communication and navigation system includes:

VHF radiotelephone, radar, GPS, autopilot, compass, echosounder and speed log. Accommodation is provided for 4 crew and 10 survivors with resuscitation equipment sets. Fuel tank capacities enable 300 NM range at 20 knots. Provisions are sufficient for 7 days autonomy.



MINISTRY OF DEFENCE OF THE REPUBLIC OF CROATIA AND BRODOSPLIT SHIPYARD SIGNED SHIPBUILDING AGREEMENT FOR COASTAL PATROL VESSEL

It is a project of building of five vessels for the needs of Croatian Navy's Coast Guard, that is supposed to enable Croatian Coast Guard to harmonise with more modern coast guard services at a global level. The armed forces will acquire new capabilities and the Brodosplit Shipyard will get a new product that we could launch further on international markets.

The 43,50-m long vessel will be fitted with the basic weapon of most coast guards today, 30 mm automatic gun, two manually operated 12.7 mm machine guns 30mm. The vessel can reach the speed of 28 knots and is very capable of pursuit. It has a large navigational range and can stay at sea for ten days with 14 crew members. The vessel is certified in accordance with Croatian Register of Shipping Rules (CRS).

The basic purpose of the vessel is patrolling, supervision and protection of Croatian interests at sea. They will be used as support to island population and in search and rescue sea operations. In war the coast patrol vessels are used for protection of internal waters and fighting and logistics support tasks.

Main Characteristics:

Length, overall.....	43,50 m
Length, on water line	39,11 m
Beam, max	8,00 m
Beam, hull	7,50 m
Depth.....	3,89 m
Draught, design TD.....	1,80 m
Draught, scantling TS.....	2,48 m
Speed, 90% MCR	28 knots
Rated output	2 x 2525 kW
Range/15 knots	1000 NM
Crew.....	14+3 members







Šestan - Busch

Security Products Manufacturing



Šestan Busch security products are a result of 25 years of experience in development and technology. In addition to the high quality of the design characteristics, the products also offer highest ballistic protection.

We produce and export protection and security equipment for army, police, security and sports institutions, associations and individuals in many European countries and worldwide. Our product range includes helmets, bullet-proof vests and clothes, personal decontamination kits and a number of multi-purpose plastic products.

We dispose with a ballistic laboratory for testing of products in our own production plants, where the products are tested in compliance with national and international standards.

The Company Šestan-Busch has been responsible, in Germany, for the design and production of a new composite military helmet for the German Army, helmets for the armies of France, the Netherlands, Croatia and other countries. An active and ongoing exchange of data and experience with foreign military agencies, state officials and fibre manufacturers is



**PROTECTIVE MODULAR HELMET
BK-IMH**

an important element in the continuing development of new products.

The quality of our products has been enhanced as a direct result of practical experience gained during the military operations by the Croatian Army. Our security and protection products are manufactured with the application of the ISO 9001 Standards and continuous quality supervision beginning with the receipt of raw materials to the final inspection of completed products. New developments are constantly being made with the introduction of new and more refined materials. Šestan-Busch is, in addition to the security aspect, primarily interested in the development of ergonomic design and the ease of use of all current and future products, and their compatibility with other products from the wide range of security equipment now available.

With our quality products, reliable service, guaranteed delivery terms, the continuously improved potential of new products and enlarged production capacity, we are your reliable partner worldwide.



PROTECTIVE HELMET
BK-OPS

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PROTECTIVE HELMET BK-3



PROTECTIVE HELMET BK-R

ARGENTINA
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 BELARUSSIA
 BULGARIA
 COLOMBIA
 CZECH REPUBLIC
 CYPRUS
 DENMARK
 EGYPT
 FRANCE
 GERMANY
 GREECE
 HUNGARY
 IRELAND
 ISRAEL
 ITALY
 JAPAN
 KAZAKHSTAN
 KINGDOM OF SAUDI ARABIA

KENYA
 KYRKYZ REPUBLIC
 KUWAIT
 LITHUANIA
 LEBANON
 MACEDONIA
 MALAYSIA
 MEXICO
 NAMIBIA
 NORWAY
 OMAN
 PAKISTAN
 PERU
 POLAND
 PORTUGAL
 RUSSIA
 SINGAPUR
 SPAIN
 SWEDEN
 TURKEY
 UZBEKISTAN
 U.A.E.
 U.S.A



PROTECTIVE HELMET BK-4



PROTECTIVE HELMET BK-MICH



PROTECTIVE HELMET BK-ACH



DEMINEING HELMET BK-RAZ



PROTECTIVE HELMET BK-M3



PROTECTIVE HELMET BK-4 C.C.



PROTECTIVE TANK HELMET BK-TL



PARACHUTISTS PROTECTIV HELMET BK-PADO



PROTECTIVE TANK HELMET BK-TE



PROTECTIVE HELMET BK-UL



PROTECTIVE HELMET PK-RIOT



PROTECTIVE HELMET PK-RIOT-I





Šešir

The company ŠEŠIR was established in 1866. in Zagreb, Ilica 29, where it is still located today. Company initially started as a designer, manufacturer and distributor of men's, women's, and children's headwear and accessories. The change of fashion and decreased demand for headwear oriented the company towards the production of official uniform hats and caps for different professions.

Today company is a leading manufacturer of a whole range of headwear and uniform accessories for different professions in Croatia as well as in the SEE region. Our infrastructure enables us to efficiently meet all the standards of excellence and satisfaction that our customer demand and expect.

Our products are supplied to: Croatian Army, Croatian Police, Croatian Railways, Croatian Post, Zagreb Electrical Tram, etc.

Our products for military purposes cover all range of specific needs. Company produces headgear worn by the armed forces in different occasions. Peaked cap is produced in different versions, for male and female users, for all branches of the armed forces.

The company also manufactures patrol and boonie caps in different camouflage patterns.





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Tehnomont Brodogradilište Pula

Tehnomont Brodogradilište Pula d.o.o. is a company founded in 1905. in a city well known for its shipbuilding tradition.



Shipbuilding and metal industry in general is our core business. The major part of our production is based on construction of different types of working ships and sophisticated special purpose vessels made of aluminium and steel for the navy, coast guard, police and related services.

We cooperate with eminent project designers and equipment suppliers from Croatia and worldwide, all in order to have a top-quality product.

Tehnomont Brodogradilište Pula doo is a member of the Tehnomont Group which, beside shipbuilding, is involved in nautical tourism, solar equipment production, production of metal constructions and investment work overseas. We have more than 600 employees.

We operate in compliance with the guidelines

and regulations of international standards for which we hold the respective certificates:

- ISO 9001
- ISO 14001
- OHSAS 18001
- Relevant Certification for welding of aluminium and steel

PATROL BOATS

Patrol Boat 25 - PB 25

Length overall	25,1 m
Beam overall	6,0 m
Draught	1,204 m
Speed	29,3 knots
Main engines	2 x 1050 kW
Crew	7 persons





Patrol Boat 14 - PB 14

Length overall13,65 m
Beam overall4,50 m
Draught0,80 m
Speed30,3 knots
Main Engines2 x 373 kW
Passengers10 persons



Patrol Boat ONIX 26 SD

Length overall8,20 m
Beam overall3,05 m
Speed28,0 knots
Main Engines2 x 192 kW
Passengers2 crew + 4 persons



Fi-Fi Boat

Length overall8,50 m
Beam overall2,80 m
Draught0,46 m
Speed30,0 knots
Propulsion2 x 140 HP
Crew3 persons
Fi-Fi pump10 bar / 1500 l/min

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NEW PROJECTS

Patrol Boat 40+ knots

Length overall25,1 m
Beam overall6,2 m
Draught1,2 m
Speed40+ knots
Main Engines2 x 1939 kW
Passengers8 persons

Patrol Boat 16 m

- PB16/Self Righting capabilities

Length overall17,6 m
Beam overall4,5 m
Draught1,0 m
Speed43 knots
Main Engines2 x 895 kW
Passengers6 persons

Patrol Boat 42 m

Length overall43,0 m
Beam overall7,8 m
Draught, approx2,0 m
Speed26 knots
Main Engines2 x 2560 kW
Passengers16 persons

SAR Boat 45 m

Length overall45,0 m
Beam overall8,0 m
Draught, approx1,8 m
Speed30 knots
Passengers21 persons

Fire Fighting Boat 25 m

Length overall24,0 m
Beam overall6,0 m
Draught, approx1,6 m
Speed35 knots
Main Engines2 x 1630 kW
Passengers4 + Rescued passengers + Divers

Fire Fighting Boat 38 m

Length overall37,8 m
Beam overall7,1 m
Draught, approx2,1 m
Speed20 knots
Passengers23 persons



The Institution of URIHO

Protection of persons with disabilities, creating conditions for their training and employment is the obligation of every civilized society. Awareness of the constantly increasing disabled population, regardless whether they are disabled workers, disabled children or war veterans, represents a social, health-related, economic, in one word - a global community problem.

The degree of civilization of a society can be measured in different ways; one of them is the attitude of the community towards persons with disabilities. This attitude implies the understanding as the foundation for achieving the ultimate goal is - that is, the integration of persons with disabilities into a family, working environment and a decent social life. It is a complex process that is accomplished via professional rehabilitation and employment at adequate working places. The employment institute must be the end of a continuous process of training and only then does it represent the consistent implementation of social policy.

The Institution for Rehabilitation of Disabled Persons by Professional Rehabilitation and Employment, abbreviated to URIHO, has been in business under this name since 1996. The institution is the legal successor of the oldest sheltered workshop in Croatia which operated

under the name "Ivančica" and was founded in Zagreb in 1946. URIHO's activity relating to professional rehabilitation and employment of persons with disabilities is of universal importance to the society as a whole. Sheltered employment is accomplished within the framework of commercial programs for textiles, ceramics, metal, leather, millinery, orthopaedics, cardboard production and printing. Out of the total number of employees in URIHO, 51% are persons with disabilities of various categories and profiles.

In April 2009 the institution of URIHO "opened" a Work Centre, the first one in Croatia, which represents a new form of work with disabled population. The main role of the Work Centre is to prepare people with disabilities for the working environment. Customers of the Work Centre are people with disabilities who have a certain level of qualification, but for some reason, one of the most common being a long-term unemployment, are not able to get directly involved in the working world.

It should be noted that URIHO is the first sheltered workshop in the Republic of Croatia which has an ISO standard. The Certificate for Quality Management System EN ISO 9001:2000 obtained for the business activity of "Designing



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and manufacturing of clothing and lines" confirms that URIHO is compliant with the strict international standards of high-quality business. This certificate defines the quality management system, employer's responsibility, resource management, product realization, measurements and analyses. For buyers of URIHO's products and services, and for its employees, the introduction of ISO standard means a continuous improvement of the quality of work, innovation, flexibility and satisfaction.

Vision - Mission - Strategy

URIHO's mission is the training and employment of persons with disabilities and other hard-to-employ population, and finding new opportunities for their employment, while creating an enjoyable and stimulating working environment at the same time. This is achieved by employing people with disabilities in production units, in accordance with their abilities and preferences, and by rehabilitation within the department with the same name, in the envisaged programs. Our goal is to create a recognized name for URIHO and its brands in every segment of our business and thus achieve and maintain the rating of most highly esteemed institution for employment of persons with disabilities in the Republic of Croatia.

To achieve the set goal, it is necessary for the quality of our products and provided services to meet the needs and desires of clients. We will therefore continue investing into technological equipment of our production units

and related services. We will invest into the training of our employees and develop a system of motivation for all staff, and especially for persons with disabilities. The emphasis will be put on professional rehabilitation of persons with disabilities aimed at developing socialization skills and preservation of working ability. With the intention of constantly maintaining the high quality level, we will focus on improving the introduced quality management system.

URIHO - 65 years of tradition, experience and quality!

Founders: City of Zagreb, Croatian Association of the Deaf and Hard of Hearing
 Number of employees: 502 employees, out of which 51% are people with disabilities
 Director: Josip Držaić, B.Sc.Educ.





REFERENCES

- ZAGREBAČKI HOLDING d.o.o. (13 subsidiaries)
- CITY GAS-WORKS OF ZAGREB Ltd.
- WATER MANAGEMENT COMPANY OF ZAGREB Ltd.
- MINISTRY OF DEFENCE OF THE REPUBLIC OF CROATIA
- MINISTRY OF INTERIOR OF THE REPUBLIC OF CROATIA
- CROATIAN INSTITUTE FOR HEALTH INSURANCE
- CROATIAN PENSION INSURANCE INSTITUTE
- McDONALDS
- KONZUM Inc.(the biggest retail chain in the Republic of Croatia)
- CROATIAN STATE LOTTERY Ltd.
- RIJEKA-ZAGREB MOTORWAY Inc.
- CROATIAN RAILWAYS HOLDING Ltd.
- STATE INSPECTORATE
- STATE INTELLECTUAL PROPERTY OFFICE OF THE REPUBLIC OF CROATIA
- ZAGREB AIRPORT Ltd.
- CROATIAN FORESTS Inc.
- CROATIAN ELECTRICAL UTILITY Inc.
- CROATIAN RADIOTELEVISION
- TRANSMITTERS AND COMMUNICATIONS Ltd.
- THE CROATIAN MINISTRY OF JUSTICE
- CROATIAN CONSERVATION INSTITUTE
- PRINTING HOUSE OF ZAGREB Ltd.
- PRINTING HOUSE VJESNIK Inc.
- CROATIAN PARLIAMENT AND THE GOVERNMENT OF THE REPUBLIC OF CROATIA
- COCA COLA BEVERAGES Croatia Inc.
- HEALTHCARE INSTITUTIONS OF THE CITY OF ZAGREB (clinical medical centres and community health centres)
- PHARMACIES OF THE CITY OF ZAGREB
- SHIPYARD called THE 3rd OF MAY, Rijeka
- HOMES FOR SENIOR AND INFIRM CITIZENS

Important dates - history and development 1946 - 2011

- 1946 - IVANČICA was founded - the first company for employment of persons with disabilities on the territory of former Yugoslavia with the purpose of employing chronically ill persons
- 1948 - sheltered workshop DES was founded for the purpose of employing deaf and hard of hearing
- 1960 - sheltered workshop OSVIT was founded for the purpose of employing disabled workers
- 1960 - sheltered workshops ZIRI was founded with the purpose of employing physically disabled and people prone to antisocial behaviour
- 1978 by merger of sheltered workshops DES, IVANČICA, OSVIT and ZIRI, which were operating in the City of Zagreb, DIOZ was established
- On 28 February 1996 - based on the contract on redesigning a state-owned enterprise DIOZ d.o.o., the Institution for Rehabilitation of Disabled Persons by Professional Rehabilitation and Employment (abbreviated to URIHO) was entered into the Court Register of the Commercial Court in Zagreb
- On 20 June 2000 - members of the City Council unanimously adopted the Program of restructuring and restoration of URIHO as an institution
- 2002 an award system "Ivančica" was established within the scope of which awards are granted every year on URIHO's anniversary, 2 December, to deserving individuals and institutions that participate in the promotion of professional rehabilitation of persons with disabilities and their employment in different ways
- 2008 - EN ISO 9001:2000, the Certificate for Quality Management System was obtained
- On 8 April 2009 - the first Work Centre for people with disabilities in the Republic of Croatia opened its door within URIHO
- On 21 January 2011- as part of the award ceremony "Employer of the Year for Persons with Disabilities in 2010", a special prize was awarded to the Institution of URIHO for outstanding contribution to professional rehabilitation and employment of people with disabilities



PROGRAMS:

READY - MADE ARTICLES:

- Working clothes for all subdivisions of industrial service trade
- Working clothes for all medical and tourist personnel
- Working uniform for army and police
- Bed-clothes, table-clothes, napkins, towels
- All kind of flags
- Embroidery service
- Ready-made fashion articles



LEATHER GOODS:

- Work-shielding gloves and aprons
- Tarpaulins and covers for machines and equipment
- Hunting and fishing equipment
- Ready-made leather articles and leather goods

PRINT:

- Complete printing service
- Graphical final processing
- Cardboard and packing production
- All kind of bindings

ORTHOPEDICS AND FOOTWEAR:

- Prosthesis
- All kind of orthopedic footwear and insets by order
- Medical personnel footwear
- Army and police footwear
 - Footwear for all subdivisions of industrial and service trades

GAM:

- Knitting, haberdashery
- Unique and souvenir ceramic
- Lamps of all shapes and sizes, candlesticks, mirrors
- Forged fences for parks, private plots, balcony
- Hand-hold, window shielding railings, hangers

REHABILITATION:

- Social-working welfare for employees
- Organizing, performing and evaluating practical part of professional development difficulties
- Children with development difficulties
- Work Centre for Disabled Persons



Varteks PRO

Varteks is the leading Croatian textile company with almost a 100 year old tradition. Its 2000 employees make it the largest textile employer in Croatia. Annual production of a million garments make it the leader in garment manufacturing. With its export to more than 20 countries worldwide it is among the largest exporters in Croatia.

Varteks PRO is a part of the Varteks group dedicated to developing, producing and distributing a wide range of protective, military and other special purpose clothing and equipment. Its dedication to development and continuous testing results in innovative products made from functional fabrics and raw materials of specific characteristics. In cooperation with its customers it develops and manufactures personalized and specially designed products. The offer portfolio of Varteks PRO includes corporate clothing, special purpose clothing and formal and ceremonial garments. Corporate clothing includes classic and casual clothes, completed with accessories, intended for hotels, banks and different front office staff. The special purpose clothing has extremely personalized functionality and certified raw materials of high quality. Its special functions include sturdiness, resistance to different external impacts (water, wind, fire, sharp objects), resistance to different aggressive substances (oil, fuel) and functional accessories (protection, high visibility). Formal and ceremonial wear are produced for the Ministry of Defence, the Ministry of the Interior, the Ministry of Finance - the Customs Directorate and the Ministry of Justice.



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Werkos



Water barrier

Tents

These mobile units are easy, fast and simple to pitch. The equipment (including the lining, the cabin and the floor) enables the usability of the tent even in extreme situations, such as for medical corps and decontamination purposes. The tents are spacious and airy and can, depending on size, accommodate a large number of people and can also be used for storage. Our products Large Tent and Small Tent have NCAGE code A009B (NATO Commercial and Government Entity Code) and NATO stock numbers (NSN).

Folding beds

Our folding beds are made of metal or aluminum construction combined with cotton or synthetic fabrics. The bed is packed into a cover with a zipper and synthetic belt for carrying.



Large tent V-01-W

DefenCell MAC system for fast fortification and FlexMac ® DT system for interventions in flood protection

Both systems are foldable wire-mesh construction, without top or bottom, with a filling form as an efficient protection barrier. System cells are filled with the material available (sand, gravel, rock).



Small tent
M-01-W

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DefenceCell MAC



FlexMac DT



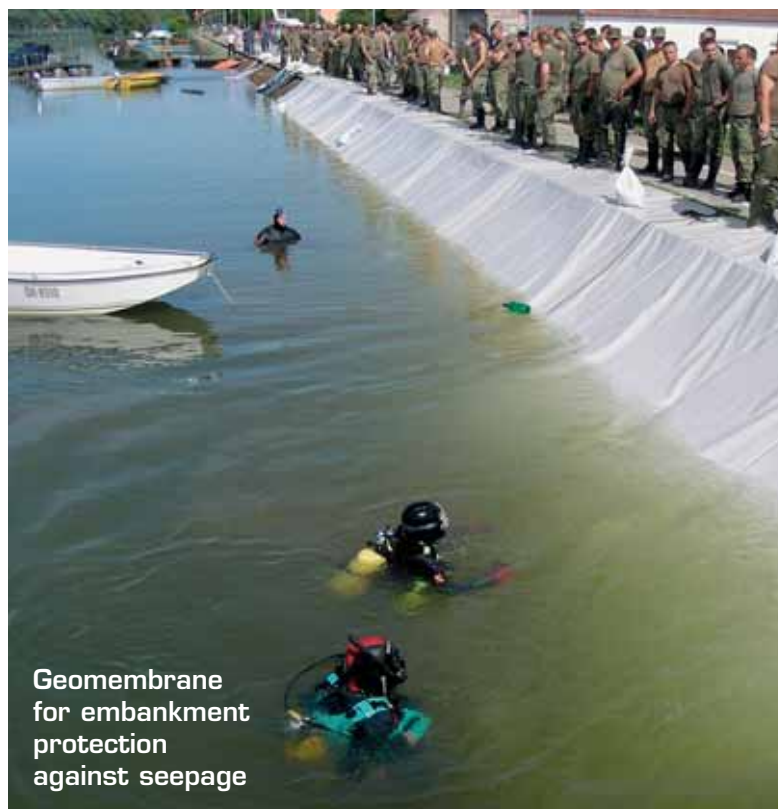
Folding beds

Water barrier

An easy and practical system which consists of metal carriers and waterproof multi-layered panels, covered with an impermeable reinforced geomembrane, used for quick embankment heightening of up to 0.95 m. Setting up this system saves time and effort when it is most needed. It is easily transported and can be used multiple times.

Geomembrane for embankment protection against seepage

Protective reinforced geomembrane prevents erosion and water seepage through the embankment. With geomembrane coverage, embankments become impermeable which is extremely important during periods of excessively high water levels.



Geomembrane
for embankment
protection
against seepage

ZTC - Overhaul & Maintenance Air Depot



Maintenance and overhaul of military and civil aircraft

Overhaul & Maintenance Air Depot (ZTC) is a joint-stock government-owned company, which carries out repair, maintenance and modifications of aircraft (fixed-wing and rotary wing), and aircraft components as well. The ZTC is a part of a rich 90-year history of the aviation in Croatia.



Maintenance of the aircraft that are in the military register:

Training
aircraft:



Pilatus PC-9(M)

Combat
aircraft:



MiG 21UMD

Transport
aircraft:



Mi-8MTV-1

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The company occupies a surface of about 230 000 sqm, and has direct access to the Zagreb Airport runway. It has own runway and helidrome.

We have highly skilled, motivated personnel, the project-oriented management and engineering capabilities to support all activities in the area of aircraft business.

Any partner interested to identify mutual business opportunities can rely on the total willingness and cooperation of the ZTC - Air Depot. Its integrated plants can currently provide the following products and services in the field of aviation.



Bell 206B "Jet Ranger III"



MiG 21bis D



Mi-171Sh



Canadair CL-415

Firefighting aircraft:

During the winter time period, firefighting aircraft are serviced in ZTC, which includes annual inspections and various repairs in the structure (caused by corrosion) and components.

During the firefighting season (summer), the ZTC is actively involved in various interventions in supporting air bases



Air Tractor AT-802A
"Fire Boss"



Air Tractor AT-802F

Short brief about Air Tractor:

Air Tractor AT-802F is designed a fast, maneuverable initial air tanker. In contrast to heavy air tankers based at larger airfields, the AT-802F can land on short dirt strips, an even work from service roads a few miles from the fire. Equipped with amphibious floats, AT-802A „Fire Boss“ adds another

dimension to the capability. It can scoop 820 gallons of water in 30 seconds and be on its way again to the front lines in a few minutes. With the ability to work as a land-based aircraft, the "Fire Boss" can drop an initial load of water, close to firescooping water from a nearby sea or lake.

Maintenance of the aircraft that are in the civil register:

Besides military program, ZTC provides services to the civilian market, and to aircraft in the civil registry. This primarily refers to annual inspections of the airframe and engines, complete refurbishment of the interior, painting the aircraft for purpose of registration or extending the airworthiness. The ZTC also conducts certification of avionics units and minor repairs on aircraft components.

General aviation:



Cessna 172



Cessna 210T



Piper_PA-31P



Piper Seneca V

Providing aircraft painting for air carrier company:



Cessna Citation



ATR-42

Workshops and laboratories

High-quality servicing of the aircraft certainly contributes to highly equipped workshops and laboratories, where we emphasize:

- Workshops and laboratories
- Metrology laboratory (calibration of test-measuring equipment)
- Laboratory for NDT testing (Non-Destructive Testing)
- Chemical laboratory (identification of polymers, elastomers, sealants, coatings and adhesives)
- Universal test bench ("Testfuchs") for rotating and non-rotating hydraulic components





Other activities of the ZTC include:

- Design and manufacturing of the tow target scoring systems
- Design and manufacturing of the UAV (for reconnaissance and flying targets)
- Design and manufacturing of the ground support equipment
- Manufacturing of spare parts
- Manufacturing of training dummy bombs
- Maintenance and testing water buckets for firefighting on the Mi-8 MTV-1 helicopter



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International Exhibition and Demonstration for Defense, Homeland Security, Cyber Security, Safety & Security and Aerospace



Exhibition Organizer



April 22 - 24, 2015
Split, CROATIA



Organized with the
support of the Ministry
of Defense of the
government of Croatia

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