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MAIN UKRAINIAN MILITARY PRODUCTS AND SERVICES

BRIEF CATALOGUE



UKROBORONPROM
Ukrainian Defence Industry



SPETS
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SPETSTECHNOEXPORT

A major Ukrainian state-owned foreign trade enterprise, which specializes in export and import of military and dual-use products and services globally, as well as on promoting innovations, military-technical cooperation and transfer of technology

OVER

22
years of
experience

30
partner
countries

170
state and private
producers

35
research centers
and design bureaus





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MILITARY AND SPECIAL PURPOSE VEHICLES

OPLLOT

MAIN BATTLE TANK

The OPLLOT main battle tank is the latest generation of tracked combat vehicles of high firepower, reliable protection, and high mobility, successfully performing offense and defense combat operations under various weather and surface conditions. The tank also includes an air-conditioned crew compartment (operating temperature range is claimed to be -40 °C to 55 °C)



OPLLOT TANK IS LOW-OBSERVABLE AT THE BATTLEFIELD

- Smokeless engine start mode
- Smoke curtain creation
- Motor-transmission section with the heat-insulating cover provides low thermal visibility
- Heat point is 2 meters behind the tank
- Anti-radar coating of the tank
- Rubber shields on the front of the turret
- Protective grids
- Air-conditioner
- Auxiliary power generator

THE FIRE CONTROL SYSTEM

Gunner's day sight, PNK-6 commander's panoramic sighting system, PTT-2 thermal imaging sight, anti-aircraft sight and anti-aircraft machine gun control system

UPON REQUEST OF THE CUSTOMER THE TANK CAN BE EQUIPPED WITH

- 120 mm caliber main gun
- Communication system of the customer

COMBINED ACTIVE AND REACTIVE PROTECTION

Allows protection from all kinds of threats

- NIZH armor
- ZASLON APS



MILITARY AND SPECIAL PURPOSE VEHICLES



ENGINE

Multifuel engine 6TD-2
1200 hp



TRANSMISSION

Automatic



MAXIMUM SPEED

70 km/h — forward
40 km/h — backward



MAXIMUM RANGE (ON ROAD)

400 km



WEIGHT

51 t



DIMENSIONS

9720 x 4176 x 2800 mm



CREW

3



ARMAMENT

TYPE

CALIBER

MAIN GUN

KBA-3

125 mm

COAXIAL MACHINE GUN

KT-7,62

7,62 mm

ANTI-AIRCRAFT MACHINE GUN

KT-12,7

12,7 mm



KEY ADVANTAGES OF THE OPLLOT TANK

- powerful two-stroke diesel engine 6TD-2 (1200 hp, 883 kW)
- moving control combined system
- driver-mechanic digital board
- new generation active and reactive protection

- improved level of tank protection
- modern aiming and observation devices
- barrel fired guided-missiles
- automatic loading mechanism
- RCWS type anti-aircraft machine gun

TANK TURRET ROTATES
180 DEGREES IN 5 SEC

THERMAL SIGHTING
SYSTEM OVER 8 KM

ADVANCED FIRE-CONTROL SYSTEM

BARREL FIRED
125 MM ATGMS



ATLET

ARMORED REPAIR AND RECOVERY VEHICLE

The Atlet ARRV is used in the composition of repair and recovery groups in the rear of tracked convoys when conducting a march, DVAPs, units and formations, recovery groups during fording operations, maintenance points, etc. They strengthen mobile maintenance means of tank battalions, division mechanized brigades and other units and formations, equipped with heavy tracked equipment



ENGINE

6TD-2, 1200 hp



MAXIMUM TRACTION FORCE

250 kN



OPERATING WEIGHT

46 t
Ground pressure — 0.93 kg/cm²



DIMENSIONS

8890 x 3560 x 2740 mm



ROPE OPERATIONAL LENGTH

130 m



CREW

3

CRANE

MAXIMUM CAPACITY	25 t
MAXIMUM RADIUS	6.8 m
JIB SWINGING ANGLE	0-75°
JIB TRAVERSING ANGLE	360°
CRANE TRAVERSING SPEED	0.2-1.5 rpm
HOOK LOWERING AND HOISTING SPEED	0.2-6 m/min



MILITARY AND SPECIAL PURPOSE VEHICLES



LEV

ARMORED REPAIR AND RECOVERY VEHICLE

Designed for mechanical support on the battlefield, assisting with the emergency evacuation of tanks from the enemy war zone by pulling tanks that have become stuck or sunken, carrying, lifting, digging, welding works, and providing technical assistance of armed units in the field



GPM-72

FIRE FIGHTING HEAVY VEHICLE

Designed for different classes firefighting using water or foam, transportation to the place of fire brigades, firefighting-technical equipment and carrying out rescue operations on arsenals, bases, ammunition depots, and oil wells, clearing passes to the place of fire



MODERNIZATION OF ARMORED VEHICLES

MODERNIZATION AND SPARE PARTS SUPPLY FOR ALL SOVIET-ORIGIN ARMORED VEHICLES:

- **MBTs:** T-55, T-64, T-72, T-80 etc.
- **APCs:** BTR-50, 60, 70, 80
- **IFVs:** BMP-I, BMP-II, BRDM etc.

MODERNIZATION OF POWERPACKS WITH THE INCREASED HP — UP TO 1500 HP FOR:

- T-72, T-80, T-84, T-90, T-55, M60 tanks

SUPPLY OF ACTIVE AND REACTIVE ARMOR PROTECTION SYSTEMS:

- NIZH
- ZASLON
- Duplet
- range finder and jammer F3 Phantom installation on tanks and APCs



BTR-4

ARMORED PERSONNEL CARRIER / INFANTRY FIGHTING VEHICLE

The BTR-4 armored personnel carrier is designed for the transportation of infantry unit personnel and combat fire support in various conditions, including the NBC environment

Equipped with Deutz engine and Allison transmission. Turbocharged 6-cylinder 11.9-liter diesel engine BF 6 M 1015 CP has 515 hp output at maximum rpm of 1800

The engine compartment space allows the optional installation of more powerful engines

BTR-4 is equipped with remote control weapon station (RCWS) BM-7 PARUS. A number of different RCWS are available for installation, depending on the customer's requirements



FAMILY OF VEHICLES



4K — COMMAND VEHICLE



4-MV — INFANTRY FIGHTING VEHICLE



4-S — MEDICAL VEHICLE



4RM — REPAIR AND RECOVERY VEHICLE



4KSH — COMMAND AND CONTROL VEHICLE

**ENGINE**

Deutz BF6M1015CP
four-stroke diesel, 515 hp

**TRANSMISSION**

ALLISON 4500SP, automatic

**MAXIMUM SPEED**

100 km/h

**BALLISTIC PROTECTION**

STANAG level 2, up to level 4

**WEIGHT**

from 17,5 t to 21,5 t
with ANTI SHOT protection

**DIMENSIONS**

7650 X 2900 X 2860 mm

**CREW**

3

**TROOPERS**

7-9

BM-7 PARUS RCWS**ARMAMENT****TYPE****CALIBER****MAIN GUN**

ZTM-1

30 mm

COAXIAL MACHINE GUN

KT-7.62

7.62 mm

ANTITANK MISSILE COMPLEX (ATGM)

Barrier/Skif

130/152 mm

GRENADE LAUNCHER

KBA-117 (AG-17)

30 mm

MAXIMUM TARGET DEFEATING RANGE

5000 m

**AVAILABLE ADVANCED AMPHIBIOUS OPTION**

The APC can be used as a basic vehicle for equipping quick-reaction forces and marine units. The APC can fulfill its tasks day-and-night, under various climatic conditions, on hard-surface roads and off-road. The operating temperature range of the APC is from -40 to +55°C

ADDITIONAL PROTECTION

- Against fragments of large-caliber projectiles
- Active protection system ZASLON + ERA



BTR-3

ARMORED PERSONNEL CARRIER / INFANTRY FIGHTING VEHICLE

The BTR-3 Armored Personnel Carrier (APC) is intended to transport mechanized infantry units and to provide fire support in combat operations. It can be used as a basic vehicle for equipping quick-reaction forces and marine units

The APC can operate day-and-night, under various climatic conditions, on hard-surface roads, off-road, and in the NBC environment



FAMILY OF VEHICLES



3M2 — 120-MM SELF PROPELLED MORTAR



3RK — COMBAT VEHICLE WITH ATGM SYSTEMS



3S — ARMORED MEDICAL VEHICLE



3BR — REPAIR AND RECOVERY VEHICLE



3DA — ARMORED PERSONNEL CARRIER

**ENGINE**

MTU 6R106TD21, 326 hp

**TRANSMISSION**

ALLISON 4500SP, automatic

**MAXIMUM SPEED**

100 km/h

**MAXIMUM RANGE**

600 km

**WEIGHT**

16 t

**DIMENSIONS**

7850 x 2900 x 2774 mm

**CREW**

3

**TROOPERS**

10

SHTURM-M RCWS**ARMAMENT****TYPE****CALIBER****AUTOMATIC GUN**

ZTM-1

30 mm

COAXIAL MACHINE GUN

KT-7.62

7.62 mm

ANTITANK MISSILE COMPLEX (ATGM)

Barrier/Skif

130/152 mm

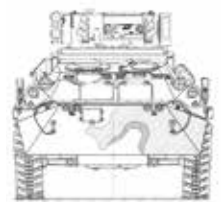
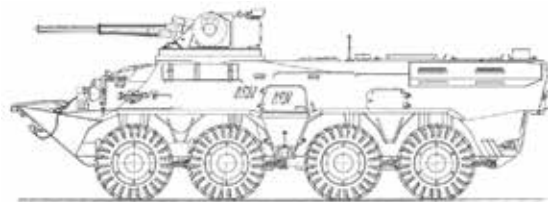
GRENADE LAUNCHER

KBA-117 (AG-17)

30 mm

MAXIMUM TARGET DEFEATING RANGE

5000 m



- Crew is accommodated in the airtight and waterproof cabin which protects them against nuclear radiation, chemical, and biological effects
- Design of the armored hull and chassis provides a high-level protection against explosions
- 8 firing ports for troops

AVAILABLE ADVANCED AMPHIBIOUS OPTIONS

Airtight and waterproof armored hull is the basis of the vehicle structure. The hull is made of armor steel and is reinforced with Kevlar from inside. The hull protects against 7.62 mm bullets and can be improved up to the level resisting to 12.7 mm bullets

AUXILIARY EQUIPMENT

- Winch pull power — 6 t
- Automatic firefighting system
- Filtration unit with full-flow filter
- Heater with efficiency 18 kW
- Air conditioner with cooling efficiency 10 kW



OTAMAN 8x8

ARMORED FIGHTING VEHICLE

Produced using some spare parts of BTR-60 (mostly suspension parts). Unlike traditional Soviet BTR, Otaman is designed according to modern-day trend in compartments disposition: engine compartment in front, troops compartment in the rear



ENGINE

Deutz, diesel, 320 hp



TORQUE

1200 N*m



BALLISTIC PROTECTION

STANAG level 2



WEIGHT

13 t



DIMENSIONS

7000 x 2660 x 2430 mm



CREW

3 + 11

OTAMAN 6x6

ARMORED FIGHTING VEHICLE

Unlike traditional Soviet BTR, the vehicle is designed according to modern-day trend in terms of disposition of compartments: engine compartment in the front, troops/fighting compartment — at the rear



ENGINE

Deutz, 558 hp



TORQUE

2080 N*m



BALLISTIC PROTECTION

STANAG level 2-4



WEIGHT

16 t



DIMENSIONS

6500 x 2660 x 2450 mm



CREW

3 + 7

TRITON

LIGHT ARMORED VEHICLE

The TRITON is an armored vehicle with the 4x4 axle configuration, designed for the transportation of military personnel, armor, ammunition, special cargo and light weapon system, communication facilities, and special equipment



ENGINE

TAD620VE diesel engine, VOLVO, 211 hp



TRANSMISSION

Allison 1000 CP, Automatic, 6-speed



MAXIMUM SPEED

110 km/h



WEIGHT

8 t



DIMENSIONS

5650 x 2450 x 2300 mm



CREW

3 + 8



VARTA

ARMORED PERSONNEL CARRIER

VARTA is an armored personnel carrier (APC). It is ideal for transporting soldiers in combat situations and can also be equipped as a Command Vehicle, or vehicle for evacuating troops

The vehicle compartment is made from specialized 560-grade steel which protects the crew from armor-piercing incendiary ammo up to 7.62 mm. VARTA uses a V-shape hull structure to accommodate anti-mine seats, giving crew members protection to withstand the detonation of charges up to 6 kg of TNT

VARTA includes a combat module equipped with either the 7.62 mm or the 12.7 mm machine gun. The vehicle has 10 gun ports around with the feasibility of accommodating a UBGL



ENGINE

V6 TD, 270-300 hp



MAXIMUM SPEED

120 km/h on road



MAXIMUM RANGE

1250 km



WHEEL ARRANGEMENT

4 x 4 (all-terrain chassis)



BALLISTIC PROTECTION

STANAG 4569 level 2, and mine blast 6 kg TNT



MINE PROTECTION

STANAG 4569 Level 2ab



WEIGHT

16,65 t



DIMENSIONS

6900 X 2550 X 2800 mm



CREW

2 + 8 + gunner

NOVATOR

ARMORED PERSONNEL CARRIER

NOVATOR armored vehicle is based on a redesigned and ruggedized Ford F550 chassis. It accommodates 5 soldiers within a cabin and has enough open-topped beds that can be configured for customer needs

APPLICATION

Transportation of soldiers

Command vehicle

Evacuation of troops



ENGINE

TD, 6,7 l, 300 hp



TORQUE

895 N*m



TRANSMISSION

6 TorgShift automatic



MAXIMUM SPEED

120 km/h



BALLISTIC PROTECTION

STANAG 4569 Level 1



MINE PROTECTION

STANAG 4569 Level 1ab



WEIGHT

8845 kg



DIMENSIONS

6400 x 2385 x 2350 mm



CREW

2 + 3

ARMORED VEHICLES

DOZOR

LIGHT ARMORED PERSONNEL CARRIER

DOZOR is designed to protect the crew and troops from small arms fire, from 7.62 mm armor-piercing bullets at a distance of 30 meters and from shrapnel from 150 mm high-explosive shells, exploding at a distance of 50 meters. Designed as 4x4 APC



ENGINE
Deutz, diesel



TRANSMISSION
Allison, automatic



SUSPENSION
Independent



ARMAMENT
Machine gun KT-12.7 mm



WEIGHT
6300 kg



DIMENSIONS
6500 x 2660 x 2450 mm



CREW
3 + 8

DOZOR light armored personnel carrier arms allow inflicting damage on enemy manpower, light armored vehicles, and air targets that fly at subsonic speeds.

The body within is covered with ballistic protection material such as Kevlar

The television camera is with a wide and narrow field of view. The spectral operating range of thermal and imaging cameras is 8-12 microns. The wavelength of the laser rangefinder is 1.06 microns. Ammunition — 150 bullets. Aiming angles vertically — from -5 to +60°, by the horizon — 360°. Possibility to equip with ATGM, 30 mm grenade launcher

- Four-stroke four-cylinder diesel engine with turbocharging DEUTZ BF 4M1013FC with 190 hp
- Automatic transmission — Allison LCT 1000
- Independent suspension with a torsion bar on a wishbone





KOZAK 2

MULTIPURPOSE ARMORED VEHICLE 4X4

The multipurpose armored vehicle combines durability and high operational payload with dynamic mobility and MRAPs. Based on the 4x4 truck chassis of Iveco Eurocargo. All-welded armored steel with V-shape monocoque hull and blast-proof seat systems



ENGINE

Iveco, diesel, 280 hp



TORQUE

950 N*m



BALLISTIC PROTECTION

STANAG level 2



WEIGHT

15000 kg



DIMENSIONS

7100 X 2500 X 2650 mm



CREW

3 + 7

KOZAK 2M

LIGHT ARMORED VEHICLE 4X4

Kozak 2M is the new modification of Kozak 2. Kozak 2M doesn't have truck chassis as a basis and is made with a monocoque body and independent suspension. This, in combination with CTIS (central tire inflation system), provides better off-road performance. All other construction features, including ballistic and blast protection, are equal to Kozak 2



ENGINE

Iveco, diesel, 280 hp



TORQUE

950 N*m



BALLISTIC PROTECTION

STANAG level 2



WEIGHT

12000 kg



DIMENSIONS

6230 X 2500 X 2300 mm



CREW

3 + 7

KOZAK 5

VEHICLE FOR POLICE AND SPECIAL FORCES 4X4

Vehicle for police and special forces like KORD (Ukrainian SWAT). Based on a 4x4 truck Ford F550 with TShift automatic transmission, specially modified by the official Ford converter "DBL Design" (front axle strengthening, suspension and brakes enforcing, bigger wheels installing)



ENGINE

Ford, diesel, 400 hp



TORQUE

997 N*m



BALLISTIC PROTECTION

STANAG level 2



WEIGHT

10000 kg



DIMENSIONS

5380 X 2360 X 2320 mm



CREW

3 + 5

ARMORED VEHICLES

KRAZ SHREK

ARMORED VEHICLE 4x4



ENGINE

Diesel, turbocharged
300-400 hp



MINE PROTECTION

STANAG 4569 Level 2a, 2b



BALLISTIC PROTECTION

STANAG 4569 Level 2



MAX SPEED

105 km/h



WEIGHT

17,5 t



CREW

2 + 10



KRAZ HULK

ARMORED VEHICLE 4x4



ENGINE

Diesel, turbocharged
300-400 hp



BALLISTIC PROTECTION

STANAG 4569 Level 2



FUEL TANK

2 x 165 l



MAX SPEED

80 km/h



WEIGHT

16 t



CREW

2 + 10

KRAZ HURRICANE

ARMORED VEHICLE 8x8



ENGINE

Diesel, turbocharged
232 hp



BALLISTIC PROTECTION

STANAG 4569 Level 4



FUEL TANK

2 x 250 l



WEIGHT

24 t



CREW

2 + 10

BARS-8

ARMORED FIGHTING VEHICLE 4x4



ENGINE

6,7 Cummins /V8/
TD, 375 hp



BALLISTIC PROTECTION

STANAG 4569 Level 2



DIMENSIONS

2600 x 6200 x 2800



MAX SPEED

110 km/h



WEIGHT

8 t



CREW

2(3) + 6

KRAZ FIONA

ARMORED VEHICLE 6x6



ENGINE

Diesel, turbocharged
300-400 hp



BALLISTIC PROTECTION

STANAG 4569 Level 2



FUEL TANK

2 x 250 l



WEIGHT

Up to 8 t



CREW

2 + 10

2 + 14



MILITARY PURPOSE CHASSIS

KRAZ-7634HE

MILITARY PURPOSE CHASSIS 8x8



ENGINE

Diesel , turbocharged
400-420 hp



MAX SPEED

100 km/h



CARGO CAPACITY

18,8 t



WEIGHT

32,2 t



FUEL TANK

2 x 350 l



KRAZ-6322

MILITARY PURPOSE CHASSIS 6x4



ENGINE

Diesel , turbocharged
300-400 hp



MAX SPEED

100 km/h



CARGO CAPACITY

11,4 - 20,6 t



WEIGHT

10,9 - 11,6 t

KRAZ-6511H4

MILITARY PURPOSE CHASSIS 6x4



ENGINE

Diesel , turbocharged
300-375 hp



WEIGHT

9,8 t



CARGO CAPACITY

23,4 t



FUEL TANK

250 (350) l

KRAZ-5233HE

MILITARY PURPOSE CHASSIS 4x4



ENGINE

Diesel , turbocharged
300-400 hp



MAX SPEED

120 km/h



CARGO CAPACITY

7 t



WEIGHT

10,1 t

KRAZ-5401H2

MILITARY PURPOSE CHASSIS 4x2



ENGINE

Diesel , turbocharged
160-300 hp



WEIGHT

5,6-7 t



CARGO CAPACITY

7 - 14 t



FUEL TANK

165 (250) l

REMOTE CONTROLLED WEAPON STATIONS

KASTET

REMOTE CONTROLLED WEAPON STATION

Kastet combat module is an in-depth modernization of the Shkval combat module. The combat module is designed for arming the newly created and modernization of the existing armored vehicles of light and medium weight class, as well as for installation on riverboats and sea-going ships, fortifications, etc

ARMAMENT

Automatic gun	ZTM-1, 30 mm
Firing rate	330 rds/min
Machine gun	KT 7.62 mm
Firing rate	250 rds/min
Automatic grenade launcher	KBA-117, 30 mm
Firing rate	50-400 rds/min
Anti-tank giuded missile	Barrier
Firing range min / max	100 m/5000 m
Guidance system	Semi-automatic by laser beam



DOUBLET

REMOTE CONTROLLED WEAPON STATION

Doublet is optimized for use on the BMP-2 family of combat vehicles. In addition to an increased amount of firepower, an important characteristic of the RCWS Doublet is its autonomy. The module helps achieve multichannel weaponry (i.e. ability of its simultaneous usage for different purposes)

ARMAMENT

Machine gun 1	2 x ZTM-2, 30 mm
Sighting range	with APTr and APITr shells — 2000 m with HETr and HEI shells — 4000 m range for air targets — 2000 m Blank range/Range of direct shot — 1100 m
Fire rate	550 rounds per minute
Machine gun 2	2 PKT, 7.62 mm
Sighting range	1700 m
ATGM	4 launcher of ATGM «Konkurs», 135 mm
Destruction	4000 m
Targeting (homing)	4 pcs
Sighting and firing control system	Tandem -2-2





OTHER TYPES OF RCWS AVAILABLE



BLIK-2M



IVA



SHTURM-M



STILET
RCWS

NEPTUNE

ROCKET SYSTEM

NEPTUNE is a land-based anti-ship missile system. It is intended to defeat warships such as cruisers, destroyers, frigates, corvettes, tank landing ships and vehicles, which operate both independently and as part of the ship groups and amphibious groups, as well as coastal radio-contrast targets in visual and adverse meteorological conditions, under an active fire and electronic countermeasures by an enemy



FIRING RANGE

up to 280 km



QUANTITY OF ROCKETS IN SALVO

16 pcs



TIME OF DEPLOYMENT

up to 15 min



MAX AMMUNITION RESERVE

72 pcs



MAXIMUM SPEED

70 km/h – on highway
20 km/h – on off-road



FIRING INTERVAL IN SALVO

from 3 to 5 s

R-360 ROCKET



ROCKET IN CONTAINER WEIGHT

up to 870 kg



WARHEAD WEIGHT

150 kg



ROCKET DIAMETER

420 mm



THE SYSTEM CONSISTS OF:



MOBILE COMMAND POST
1 EA



R-360 ROCKET
4 EA in 1 launcher



UNIFIED SELF-PROPELLED LAUNCHER
1 - 4 EA



TRANSPORT-LOADING VEHICLE
1 - 4 EA



TRANSPORT VEHICLE
1 - 4 EA



SET OF GROUND EQUIPMENT
1 SET



VILKHA

MULTIPLE LAUNCH ROCKET SYSTEM

VILKHA (MLRS) is designed to destroy armored, lightly armored and unarmored vehicles, enemy manpower, command posts, communication centers, military-industrial facilities, aboveground facilities for storage and other purposes at long distances



FIRING RANGE
up to 125 km



DURATION OF FULL SALVO
not more than 40 s



TIME OF ROCKET CONTROL
not more than 3 min



QUANTITY OF ROCKETS IN MULTIPLE LAUNCHING POD
12 pcs



GUIDANCE SYSTEM
INS+GPS



OPERATION TEMPERATURE RANGE
from -40 to +55 °C

GUIDED ROCKET

The peculiarity is that at the initial part of the trajectory a rocket flight correction is provided with the help of pulse engines that reduce to minimum rocket fly deviation from the preset trajectory. In the final part, the rocket is aimed at the target by an inertial and satellite navigation system using aerodynamic control surfaces. The VILKHA MLRS ensures forming of individual flight task for each rocket that makes possible to defeat several targets by one salvo



ROCKET LENGTH
7600 mm



ROCKET CALIBER
300 mm



ROCKET WEIGHT
860 mm



WARHEAD WEIGHT
not more than 165 kg





THE SYSTEM CONSISTS OF:



COMBAT VEHICLE
1-4



MOBILE COMMAND POST
1 EA



TRANSPORT-LOADING VEHICLE
1-4



GUIDED ROCKET
12 EA in 1 CU



SET OF GROUND EDPT
1 SET



R-27

AIR-TO-AIR MISSILES

The R-27 is a medium-range, guided air-to-air missile. It is designed to intercept and destroy hostile piloted aircraft, drone targets, and cruise missiles in long-range and close-in maneuverable air fights. It features a modular three-part construction – the equipment and guidance section with a homing head, warhead, and solid-propellant rocket motor.

The missile has three mounting points to the aircraft. It is compatible with the MiG and Su aircraft weapon systems



Type of missile	R-27ER1	R-27R1	R-27ET1	R-27T1	R-27EP1	R-27P1
Launch weight	350 kg	253 kg	343 kg	245 kg	346 kg	248 kg
Launch altitude	to 27 km	to 25 km	to 27 km	to 25 km	to 20 km	to 20 km
Maximum launch range, km head-on aspect / tail aspect	93 / 26	60 / 18	84 / 20	50 / 15	110 / -	78 / -
Guidance	Semi-active radar seeker with command updates		IR seeker		Passive guidance on radar and jammer	



BM-21U VERBA

MULTIPLE LAUNCH ROCKET SYSTEM (122 mm)

BM-21U combat vehicle is designed for the destruction of:

- unprotected and sheltered enemy manpower and equipment
- armored personnel carriers, tanks and other military equipment in areas of concentration
- artillery and mortar batteries, tactical missile batteries, helicopters on landing areas
- command posts, storages with fuel and ammunition
- other purposes



BM-21UM BEREST

MULTIPLE LAUNCH ROCKET SYSTEM (122 mm)

The combat machine consists of an artillery unit and a KrAZ-5401 NE chassis

THE COMBAT MACHINE HAS:

- electronic control unit for firing channels
- navigation system
- fire control system
- digital communication and reception and transmission of information

The BM-21UM Berest combat machine is designed for:

- destruction and suppression of the enemy's life and military equipment in the areas of their concentration
- destruction and suppression of artillery and mortar batteries
- destruction of fortifications, support points, and enemy resistance points



2S22 BOHDANA

SELF-PROPELLED HOWITZER (155 mm)

The 2S22 Bohdana is developed in Ukraine. It is based on the 6×6 chassis of the KrAZ-6322. It has an armored cabin and enough storage for around 20 shells. The howitzer has a minimum range of 780 meters and a maximum range of 40 km with HE/AP ammunition or 50 km with a rocket-assisted projectile. It has an average rate of fire of six shells per minute



PRECISION GUIDED WEAPONS

KVITNYK

HIGH PRECISION GUIDED ARTILLERY PROJECTILE WITH LASER SEMI-ACTIVE HOMING GUIDANCE

The Kvitnyk projectile is designed for a high-precision strike on various targets. The missile fires from an artillery system as a part of a system of guided artillery arms

The Kvitnyk is designed for effective defeating of tanks, IFVs, armored vehicles, multiple rocket launchers, self-propelled artillery systems, artillery pieces, both on the move and stationary, located open air or in pits, command, control, communications centers, bridges, crossings, defense fortifications, surface targets (combat, landing or transport ships), etc with a high probability of the first-shot hit



COMBAT PART TYPE

high-explosive fragmenting



WEIGHT OF EXPLOSIVES

not more than 8 kg



FIRING RANGE

20000 m



WEIGHT OF PROJECTILE

not more than 52 kg



CALIBER

152 (155) mm



LENGTH

11250 mm



OPERATING TEMPERATURE RANGE

from -40 to +50 °C

KARASUK

GUIDED ARTILLERY PROJECTILES WITH LASER SEMI-ACTIVE SELF-GUIDANCE TYPE

KARASUK IS EFFECTIVE AGAINST:

- Tanks
- Armored infantry vehicles
- Armored vehicles
- Missile launchers
- Self-propelled artillery systems
- Artillery pieces, stationary and moving, located openly or in shelters
- Command, control centers, communications, computer and intelligence centers
- Bridges, crossings, defensive fortifications
- Surface targets (combat, landing or transport vessels, etc) with a high probability of the first-shot hit



COMBAT PART TYPE

high-explosive fragmenting



WEIGHT OF EXPLOSIVES

not less than 5 kg



FIRING RANGE

12000 m



WEIGHT OF PROJECTILE

not more than 28 kg



CALIBER

122 mm



OPERATING TEMPERATURE RANGE

from -40 to +50 °C



KONUS

ROUND COMPRISING ANTI-TANK GUIDED MISSILE

Round comprising antitank guided missile is designed to destroy stationary and moving modern armored targets with combined, carried, or monolithic armor, including ERA (explosive reactive armor), and also against pinpoint light-armored objects and helicopters



COMBAT PART TYPE
tandem hollow-charge



FIRING RANGE
5000 m



CALIBER
120 mm



OPERATING TEMPERATURE RANGE
from -40 to +60°C



ROUND WEIGHT
28 kg



ARMOR PENETRATION
not less than 700 mm



LENGTH
1074 mm



FLIGHT TIME AT MAXIMUM RANGE
16,3 s

KOMBAT

ANTI-TANK GUIDED MISSILE

Anti-tank laser beam missiles are designed to ensure effective fire from tanks against stationary or mobile armor hardened targets with explosive reactive armor (ERA), as well as against small-size or light-armor targets like a pillbox, reinforced pillbox, trenched tanks, hovering helicopters, and similar type of targets. It is possible to produce training rounds "KOMBAT -621UT" intended for T-72 tank crew training related to the on-site handling and work with the item: loading to and withdrawal from the ammo rack as well as connection and detachment of head and tail sections of missiles



COMBAT PART TYPE
tandem hollow-charge



FIRING RANGE
5000 m



CALIBER
100 / 120 / 125 mm



OPERATING TEMPERATURE RANGE
from -40 to +60°C



ROUND WEIGHT
not more than 30,45 kg



ARMOR PENETRATION
not less than 750 mm



LENGTH
1196 mm



FLIGHT TIME AT MAXIMUM RANGE
16,3 s

ANTI-TANK MISSILE SYSTEMS

BAR'ER

VEHICLE CARRIED ANTI-TANK MISSILE SYSTEM

The BAR'ER vehicle-carried anti-tank missile system, mounted on a turret of a combat vehicle (like ICV or APC), is intended to destroy stationary and moving modern armored targets with combined, spaced or monolithic armor, including ERA (explosive reactive armor), as well as pinpoint targets such as permanent fire positions, tanks in trenches, light-armored objects and helicopters



MAXIMUM FIRING RANGE
5000 m



CALIBER
130 mm



FLIGHT TIME AT MAX RANGE
23 s



WEIGHT OF MISSILE
29,5 kg (in container)



CONTAINER LENGTH
1360 mm



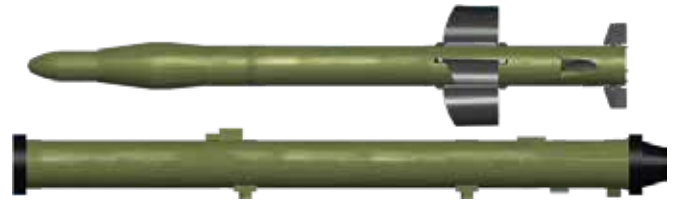
CONTAINER OUTER
140 mm (diameter)



BAR'ER-V

HELICOPTER ANTI-TANK MISSILE SYSTEM

The BAR'ER-V helicopter anti-tank missile system is used in the modernization of MI-8/17, MI-24/25/35, and other types of helicopters, which consists of an anti-tank guided missile (in a transport and launching container) and a laser control channel in an optical-sighting station. The BARRIER-V is designed for the destruction of stationary and moving hard targets with combined, spaced, or monolithic armor, including ERA (explosive reactive armor) as well as pinpoint targets such as fortified emplacements, tanks in trenches, light-armored objects, and helicopters



COMBAT PART TYPE
tandem hollow-charge



OPERATING TEMPERATURE RANGE
from -40 to +60 °C



MAXIMUM FIRING RANGE
7500 m



WEIGHT OF MISSILE
47 kg (in container)



MISSILE CALIBRE
130 mm



CONTAINER LENGTH
1917 mm



GUIDANCE SYSTEM
by laser beam with target tracking in automatic mode



CONTAINER OUTER
140 mm (diameter)






ANTI-TANK MISSILE SYSTEMS

SKIF

MAN-PORTABLE ANTI-TANK MISSILE SYSTEM

The SKIF man-portable anti-tank missile system is designed to destroy stationary and moving modern armored targets with combined, spaced or monolithic armor, including ERA (explosive reactive armor), and also pinpoint targets like permanent fire positions, tanks in trenches, light-armored objects, and helicopters



-  **FIRING RANGE AT DAY TIME**
100-5500 m
-  **FIRING RANGE AT NIGHT**
100-3000 m
-  **OPERATING TEMPERATURE RANGE**
from -40 to +60 °C
-  **GUIDANCE SYSTEM**
semi-automatic by laser beam with target tracking




-  **WEIGHT OF LAUNCHER**
32 kg
-  **WEIGHT OF GUIDANCE DEVICE**
15 kg
-  **WEIGHT OF THERMAL IMAGER**
6 kg
-  **DIMENSIONS**
1370 X 1160 X 860 mm

R-2S



-  **CALIBER**
130 mm
-  **FLIGHT TIME AT MAX RANGE**
29,5 s
-  **ARMOR PENETRATION**
Tandem hollow-charge behind ERA
Not less than 800 mm




High-explosive fragmentation with EFP
Not less than 60 mm
-  **MISSILE WEIGHT**
Not more than 15,7 kg




RK-2S

R-2M



-  **CALIBER**
152 mm
-  **FLIGHT TIME AT MAX RANGE**
38 s
-  **ARMOR PENETRATION**
Tandem hollow-charge behind ERA
Not less than 1100 mm

High-explosive fragmentation with EFP
Not less than 120 mm
-  **MISSILE WEIGHT**
Not more than 21,02 kg



RK-2M

CORSAR

LIGHT PORTABLE MISSILE SYSTEM

The CORSAR light-weight portable missile system is designed to destroy stationary and moving modern armored targets and other objects with combined, spaced or monolithic armor, including ERA (explosive reactive armor), as well as pinpoint targets such as weapon emplacements, light-armored objects and helicopters. Firing can be carried out from the mount as well as from the parapet



MAXIMUM FIRING RANGE
2500 m



ARMOR PENETRATION
Tandem hollow-charge behind ERA
Not less than 550 mm

High-explosive fragmentation with EFP
Not less than 50 mm



GUIDANCE SYSTEM
semi-automatic by laser beam



OPERATING TEMPERATURE RANGE
from -40 to +60 °C



WEIGHT OF MISSILE IN CONTAINER
15,3 kg



WEIGHT OF LAUNCHER
9,2 kg



WEIGHT OF MOUNT
6,3 kg



90K6E

MOBILE 3D SURVEILLANCE RADAR

The mobile 3D air surveillance radar with a solid-state transceiver, intended for low, medium and high altitude flying targets detection. It is designed to be used:

- as target designation system in anti-aircraft missile troops
- as an information link in AD and AF units

The radar can be transported by C-130 Hercules aircraft



MAIN SPECIFICATIONS

Maximum radar operation limits:		Transmitter peak power	32 kW
in range	500 km	Clutter suppression	50 dB
in azimuth	360°	Jamming cancelling	20 dB
in elevation	0°-70°	Track throughput	more than 500
Detection range of target flight altitude 10-30 km	450 km	IFF equipment	built-in
		Transmitter type	Solid State





1L221E

ARTILLERY TRACKING RADAR

The radar allows determining the coordinates of mortar firing positions, cannon artillery, rocket launcher systems, tactical missile launch positions at the first shot (launch). The radar provides coordinates of enemy positions and adjusts the firing of own weapons by automatic fire control systems

FEATURES

- Target detection and adjusting of artillery shooting
- Verification of firing system types: mortars, artillery, tactic missiles
- Using as an element of reconnaissance strike complex
- Operations in difficult climatic or jamming conditions

MAIN SPECIFICATIONS

Detection range:	
artillery	23-28 / 28-29 km
mortars	20-24 / 25 km
MLRS	38-39 / 55-59 km
tactical missiles	55 / 58 km
Electronic scanning detector:	
in azimuth	60° (± 30°)
in elevation	40° (+25° — -15°)



FREQUENCY BAND
S



FIRE POSITIONS
60 min



ACCURACY
0,35% from range



DEPLOYMENT / CLOSING DOWN
20 / 15 min

MINERAL-ME

MULTIFUNCTIONAL TARGET DESIGNATION RADAR SYSTEM

The Mineral-ME complexes of marine and coastal basis are the integrated multifunction information-and-control systems that are based on the usage of different information sensors (of active, passive, mobile surveillance posts) within one information field, provide the over-the-horizon detection of surface targets and deliver target designation data for full firing range of missile weapons



MAIN SPECIFICATIONS OF SUBSYSTEMS

Radar type	Active	Passive	MEI-MOR
Frequency band	I	I, G, E/F, D	I
Scanning zone	through azimuth through range	360° 35 (100-250) km	360° up to 30 km

36D6-M2

HIGH-MOBILITY SURVEILLANCE RADAR

The high-mobility surveillance radar is intended for detection and target identification at the low and high height at the influence of active and passive jamming with the coordinate and tracks data output t



OPERATION BAND

S



NUMBER OF TRANSPORT UNITS

2



INSTRUMENTED RANGE

90, 180, 360 km



DEPLOYMENT / CLOSING TIME

<30 min



ANTENNA TYPE

DPAR



Detection range for low flying targets	RCS = 1-2 m ²	Track capability	>256
at flight altitude 100 m	42 km	Accuracy, range	100 m
at flight altitude 1000 m	110 -115 km	Accuracy, azimuth	10 – 15 angular min
Azimuth coverage	360°	Accuracy, altitude	400 m AT < 70 km range
Elevation coverage	0,5° – 30° in 2 rev.	MTBF	800 hours
RPM	>48 dB		

P-18 TYPE

SOLID STATE VHF RADAR

POSSIBILITIES AND ADVANTAGES:

- High detection range, accuracy, jamming immunity, numbers of plots and tracks, reliability
- High dynamic range (up to 100 dB) resulting in high jamming immunity and suppression of clutter and weather formations
- Implemented functions of a radar extractor for post-detection signal processing (detection, location measuring, plots generation, clutter map, scan-to-scan processing, stabilization of false target generation, processing of identification signals, data distribution to consumers)
- A large number of probing signals, ability to choose the best one depending on the air situation, jamming and combat conditions
- Reconfigurable (via program or random) parameters of probing signal — working frequency, modulation type, waveform
- Efficient algorithms for clutter suppression with a wind speed compensation the automatic combining of amplitude and coherent channels that decrease signal loss and increase detection range and accuracy implementation of an automatic built-in diagnostic system



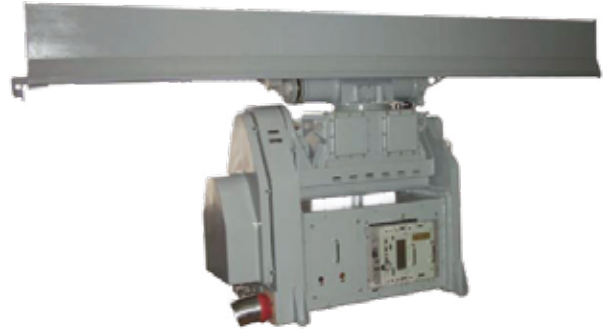
Frequency band	140-180 MHz
Radar coverage zone, max zone	up to 500 km
Location accuracy:	
range	200 m
azimuth	0,4°
Resolution:	
range	1200 m
azimuth	8°



DELTA

MOBILE SOLID-STATE ALL-ROUND OBSERVATION RADAR

The DELTA radar is a modern mobile two-dimensional pulse coherent solid-state radar for surface and air surveillance with low probability interception of its electromagnetic radiation. It delivers in a fully automatic way the current coordinates of any target located within its area of detection. This mobile radar could be installed on transport vehicles (automobiles, armored personnel carriers, infantry combat vehicles, etc) which allows arranging its operation in uplands to ensure necessary viewing conditions



DETECTION RANGE

Antenna rotation	3, 6, 12 s
Power supply	220 W, 50 Hz
Power consumption	not more than 500 W
Equipment weight	150 kg
Maximum target detection range:	
small size air type	8-20 km
ground-based	16-20 km
surface type	radio horizon range



FREQUENCY BAND
X



NUMBER OF TARGETS TRACKED
up to 50



BANDWIDTH
150 MHz



RANGE SCALE
12, 24, 48, 96 km

KOLCHUGA RDF 360

LONG RANGE PASSIVE RADAR (ELINT SYSTEM)

A system for the identification of emission sources that belongs to radio engineering, control, and surveillance systems of emission sources of various classes and systems with pulsed and continuous emission mounted on ground, surface, and air objects



FREQUENCY BAND
0,13-12 GHz



DETECTION RANGE (OTH)
up to 700 km



FREQUENCY RANGE
0,3-18 GHz



TRACKING CAPACITY
200 real time tracks



TYPES OF TARGETS
air, land and surface

Coverage sector	360°
Target library capacity	100000
Tracking capability	3D
Target detection and tracking	up to 450 km
Processes all types of radars	SSR/IFF (mode 1, 2, 3 (A,C), 4, S, TACAN)
Simultaneous bandwidth	<ul style="list-style-type: none"> • 0,5 GHz within a 0,75-8 GHz band; • 3,5 GHz within a 8-12 GHz, 8-18 GHz band

BUKOVEL-AD

ELECTRONIC WARFARE AND TACTICAL JAMMERS

Bukovel-AD is an effective electronic warfare system to counter a wide range of UAVs

It has real combat experience with several hundred successful missions. Each technical solution of the system is the result of the accumulated experience while in warfare with a high-tech enemy. The system has high mobility and completes a set of tasks performed from detecting, tracking targets to suppressing satellite navigation channels and communication channels between UAVs and GCS

OBSERVATION ANGLE
59-2,3°

OPTICAL ZOOM
36x

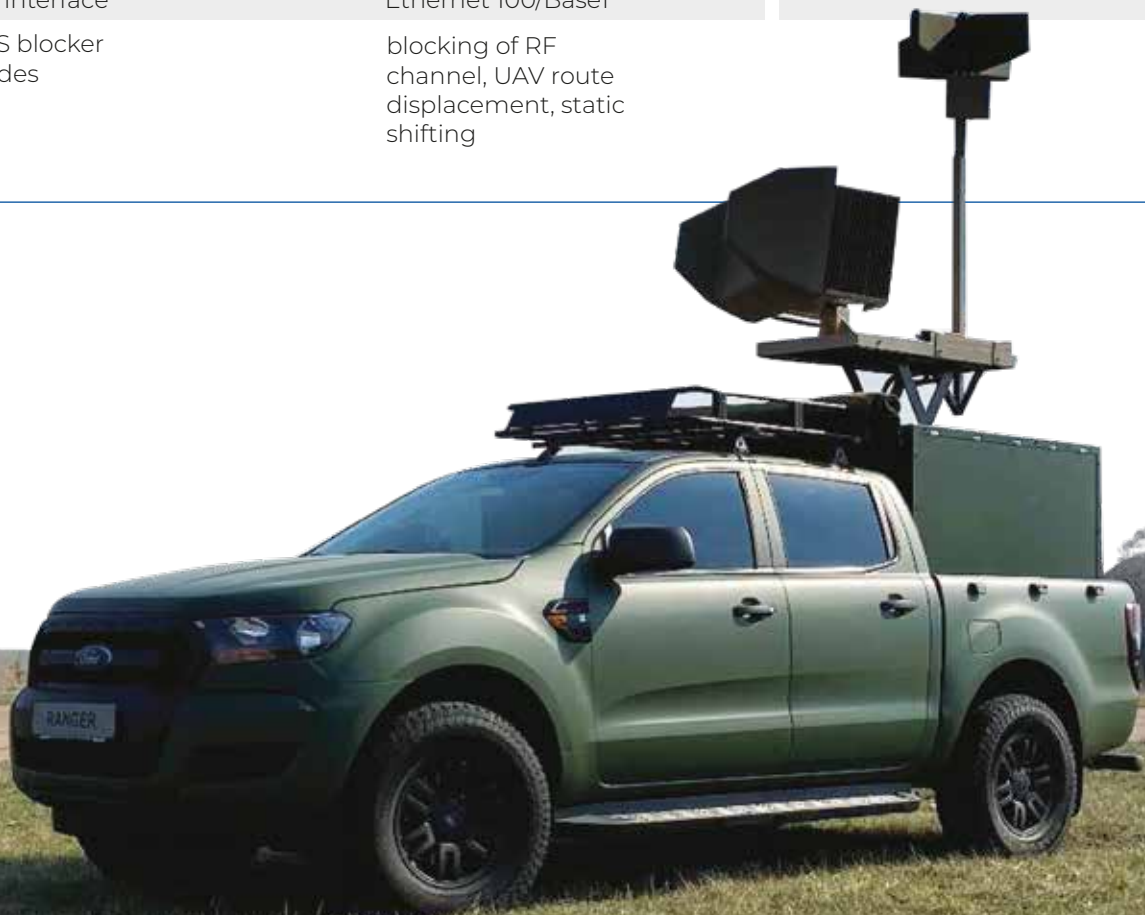
IR SENSOR
36 mm, 640X512, frame-repetition rate 25 Hz



Azimuth / vertical plane	360°/120°
Speed	6° per sec
Frequency band	390-6200 MHz
Output power	6*20 W
Beam width	35*65°
Antennas gain	9.5 dBi
Management interface	Ethernet 100/BaseT
GPS/GLONASS blocker operation modes	blocking of RF channel, UAV route displacement, static shifting

PRX-AD-SC MANAGEMENT MODULE MAIN PARAMETERS

- Software:
- Radar information presentation module
 - Optical detectors module
 - SIGINT module (optional)
 - Blocking synthesizers management module





NOTA

ELECTRONIC WARFARE SYSTEM

The NOTA system is designed to neutralize UAVs, disrupt mobile networks (GSM, UMTS, LTE, CDMA, Wi-Fi, VHF), countering signal and radar intelligence systems. The NOTA system provides direction finding sources of radio emission and radio jamming wireless communication, channels of satellite navigation, remote control, telemetry, and technical intelligence means

The NOTA system is designed for military and civil applications. It can be adjusted to customer requirements (frequency band, emission pattern, power, etc)

The operation Console of the system has a unified WEB interface (thin client) and allows the simultaneous work of several operators. The system can be used at airports, while certain frequencies for airborne radio communication or frequencies required for safe landing of aircraft may not be muted. The required parameters are specified by the software



RANGE OF THE NOTA SYSTEM:

Ku frequency band	300-6200 MHz
Radio Intelligence Sector	Circular 360
Frequency range using directional and omnidirectional antennas	350-6150 MHz
Output power counteracting communication networks	450 W
Range using directional antennas	15 km
Range using omnidirectional antennas	5 km (counteraction to control channels), 15 km (GPS counter)
UAV counter-power output	385 W

DURING OPERATION OF THE SYSTEM NOTA DOES THE FOLLOWING:

- Detection of the UAV's operation
- Determination of UAV bearings
- Deactivation of satellite navigation channels in the frequency range NAVSTAR, GLONASS, GALILEO, GPS, BEIDOO
- Deactivation of remote control channels in the frequency range up to 6 GHz



DETECTION

not less than 20 km



CREW

2



WEIGHT

not more than 250 kg



COUNTERMEASURES TO THE UAV

not less than 20 km



DEPLOYMENT TIME

up to 20 minutes

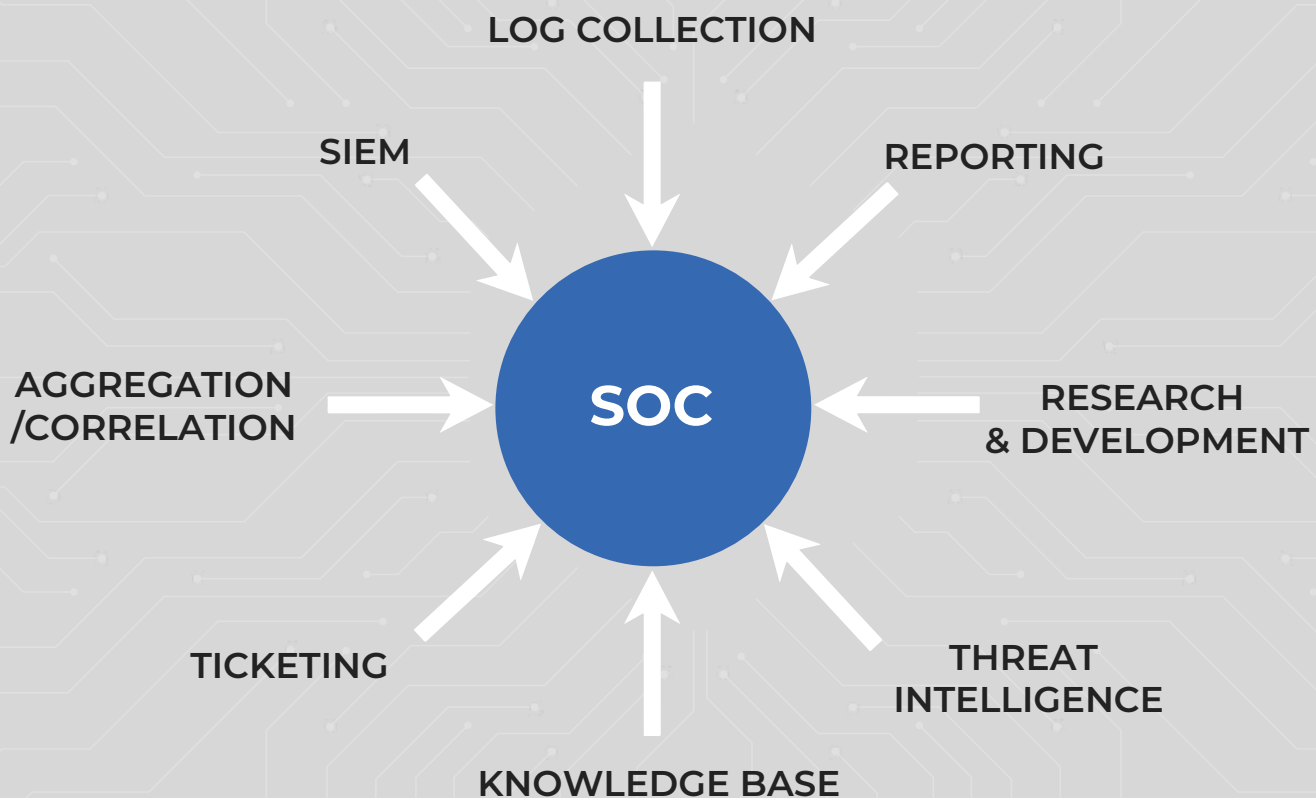
RED TEAMS

- Imitation of actions of intruders concerning the purpose
- Violation of the security of target system or process through physical or digital penetration
- To remain undetected, as long as possible for Blue Team
- Setting up a max possible number of channels for unloading information and managing the target system
- Continuous use of the best and non-standard practices to compromise the system

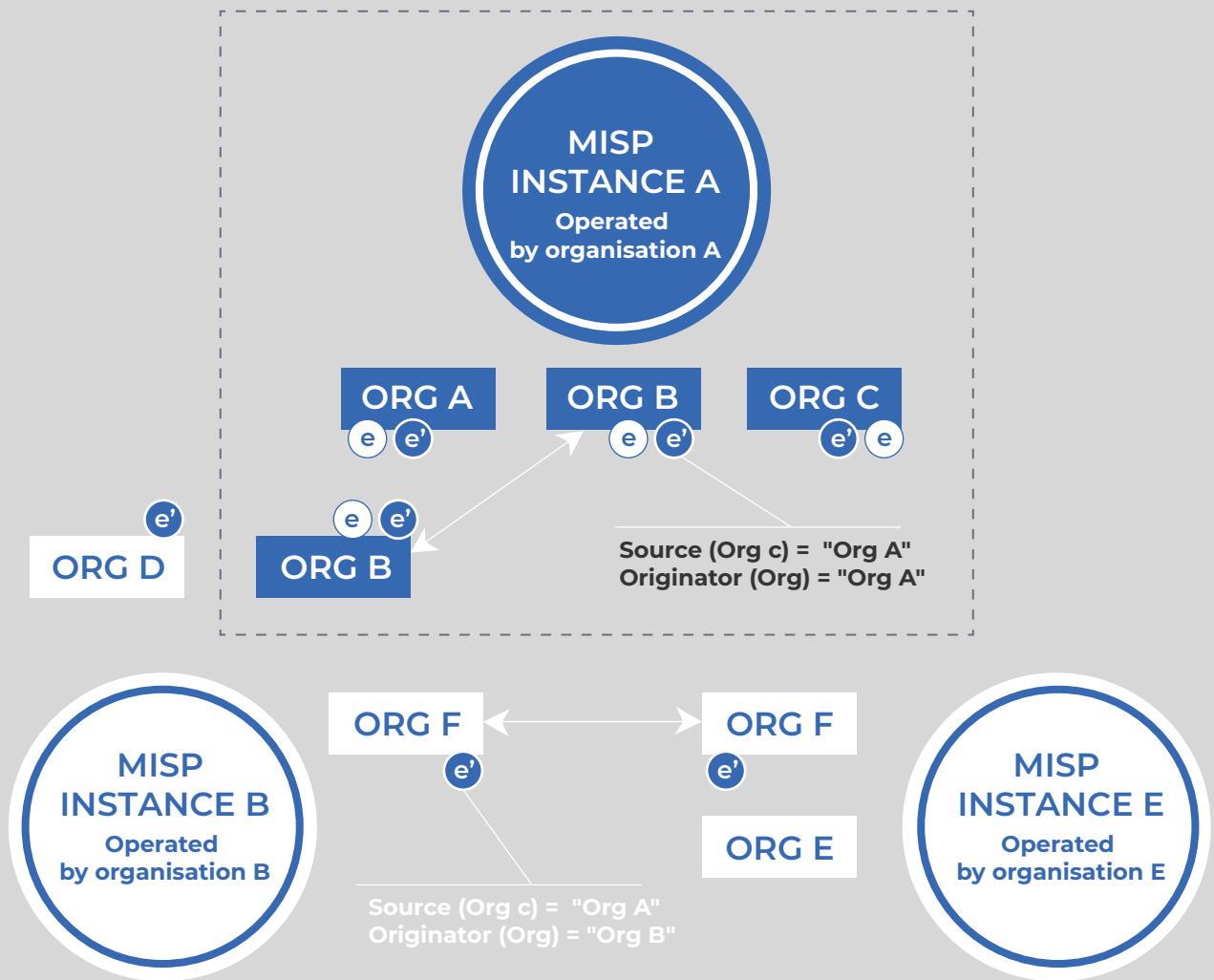
COORDINATING CENTERS AND SOCS

- Understanding each phase of the incident and adequate response
- Detection of suspicious traffic anomalies and detection of signs of compromise of the system
- Preparation of the incident report, adjustment of response algorithms to the incident
- Detection of command and control servers of Red Team/Attackers (C&C or C2) and blocking their connection to the target
- Analysis and forensic expertise in systems of each sector

SOC BUILDING FOR EACH SECTOR



SECTORS COMMUNITY



LEGEND

	Community A
	Org X Organisation inside the community A
	Org X Organisation outside of the community A
	e MISP event shared to the community A only
	e` MISP event created by Org A and shared as "Connected communities"
	Synchronisation between two MISP instances

ZSU-23-4 SHILKA MODERNIZATION

SELF-PROPELLED AIR DEFENSE SYSTEM

THE DEEP MODERNIZATION INCLUDES:

- Replacement of the 1RL33M radar with a multifunctional radar with a digital antenna array
- New optical location system and missile channel
- Replacement of the computing device with a digital computer system
- Integration of new combat weapon control algorithms
- Replacement of the gas turbine unit with a more economical power supply unit
- Replacement of other units



The key update is the digital array radar "Rokach AS". It can work in round-the-clock mode, search and provide auto attendance. The radar confidently detects and accompanies even UAVs with an effective scattering surface of about 0.01 square meters at distances up to 7 kilometers

The new radar station with a digital array antenna can quickly identify targets both independently and according to external targets. Also, it allows to accompany several goals simultaneously that are within the range of the focus, and in the case of a single target attack, it is almost instantaneous to proceed with the preparation of firing the next target

2K22 TUNGUSKA MODERNIZATION

SELF-PROPELLED AIR DEFENSE SYSTEM

Ukraine offers an upgrade for the Soviet-designed 2K22 Tunguska self-propelled air defense system. The upgrade includes life extension overhaul and replacement of the key subsystems and assemblies, including the cannon, missile launcher, and carrying chassis

A comprehensive package additionally addresses upgrades to the electronics set, ergonomics, and operator workstations, the electronic-optical system with a video processing capability





2K12M1-2L KVADRAT-2L MODERNIZATION

SAM SYSTEM

Engagement Radar Vehicle (SURV) 1S91-2L
The Upgraded 2K12M1-2L Surface-To-Air
(SAM) System (Kvadrat-2L) features improved
performance and extended functional
capabilities due to new algorithms of data
processing and displaying, digital signal
processing with software-based MTI and
automatic data read-out and processing.
2K12M1-2L is offered as the upgraded
follow-on to 2K12M1



S-125 PECHORA MODERNIZATION

SAM SYSTEM

The modernized S-125M-E1 AAMS is designed to
destroy modern and advanced air assault means

OTHER ANTI-AIRCRAFT MODERNIZATION OPTIONS:

- 2K12 KUB
- 9K33 OSA
- 9K37 BUK
- S-300 Family
- S-60
- S-75
- S-125
- IGLA-1M
- KOLIBRI



2K12 KUB



9K33 OSA



9K37 BUK



IGLA-1M

AN-178

MEDIUM TRANSPORT MULTIPURPOSE AIRCRAFT

The AN -178 is medium transport multipurpose aircraft of the family AN-148/158

It was designed to replace AN-12 and C-160. AN-178 with a cargo door and a ramp in the tail section is intended for delivery of personnel, weaponry, and light military vehicles, for transportation of material assets, mail, and other cargoes in bulk, containerized, and palletized freights. The maximum payload is 18 tons. In emergencies, AN-178 can evacuate civilians from disaster areas, casualties at standard stretchers, and airdrop paratrooper rescue teams



ENGINES
2 X D436-148FM

CRUISING SPEED
825 km/h

CRUISING ALTITUDE
12200 m

MAX CARGO LOAD
18 t

CABIN VOLUME
167 m³

CREW
2 + 1

WINGSPAN
30,57 m

WOUNDED AT THE STRETCHERS + AT SEATS
40 + 15 persons

TROOPERS
100 persons

PARATROOPERS
84 persons

CARGO COMPARTMENT
13,21 (16,54) m X 2,73 m X 2,73 m

LENGTH
32,23 m

HEIGHT
9,65 m

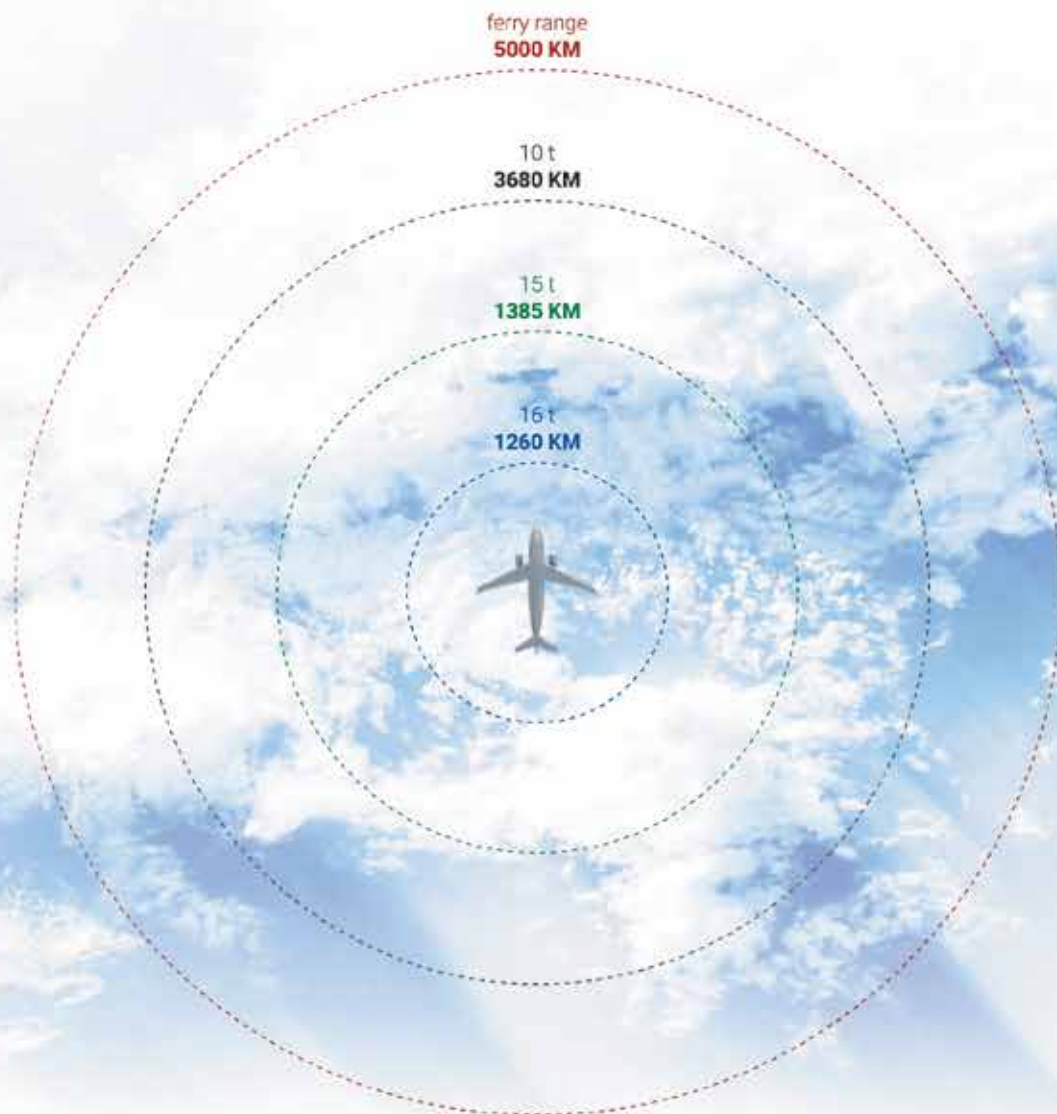
AN-178 – CARGO COMPARTMENT'S CAPABILITIES

CARRIAGE	ITEMS
Containers, inch (m):	
• M1 96"x96"x125" (2,438x2,438x3,175)	4
• M2 96"x96"x238,5" (2,438x2,438x6,058)	2
• M3 88"x96"x117,8" (2,438x2,438x2,991)	4
• 1D 96"x96"x117,8" (2,438x2,438x2,991)	2
• 1C 96"x96" x238,5" (2,438x2,438x6,058)	2
Pallets, inch (m):	
• 88"x108" (2,235x2,743)	5
• 88"x125" (2,235x3,175)	4
• 96"x125" (2,438x3,175)	4
• 96" x238,5" (2,438x6,058)	5





AIRCRAFT



ONBOARD MAINTENANCE CONTROL SYSTEM
for optimization of the maintenance process

LANDING GEAR
for operations on unpaved runways

WINGLETS
Fuel consumption reduction

PRACTICAL RAMP
with a kneeling system



PRESSURIZED CARGO CABIN
for completion of standard military and civil missions



APU
autonomous operations



EMBEDDED DOOR
with integrated stairs



EMERGENCY HATCH
Evacuation of personnel at emergency conditions

AN-74TK-200A

MILITARY TRANSPORT AIRCRAFT

It is designed for transportation of cargo in containers or on pallets. The aircraft can be converted to carry out the following missions:

- Transportation of personnel (67 people)
- Paratroops (42 people)
- Air-drop up to 3.5 t



ENGINES

2 x D-36, series 3A double-flow turbojet



MAX CARGO LOAD

10 t



CARGO COMPARTMENT

25,74 m X 3,10 m



CRUISING SPEED

650 km/h



CRUISING ALTITUDE

10100 m



CREW

3

AN-140

TURBOPROP REGIONAL AIRLINER

Antonov AN-140 is a turboprop regional airliner, designed by the Antonov Company as a successor to the Antonov An-24, with extended cargo capacity and the ability to use unprepared airfields



POWERPLANT: 2 x Motor-Sich TV3-117 series 1 turboprop engines, 1,838 kW (2,465 hp) each

ALTERNATE ENGINES: 2x Pratt & Whitney Canada PW127A turboprops driving Hamilton Sundstrand 247F propellers



POWER/MASS

0,19194 kW/kg



SERVICE CEILING

7600 m



LENGTH

22605 m



CRUISING SPEED

575 km/h at 7,200–7,500 m



MAX CARGO LOAD

6000 kg



HEIGHT

8225 m



WINGSPAN

25505 m



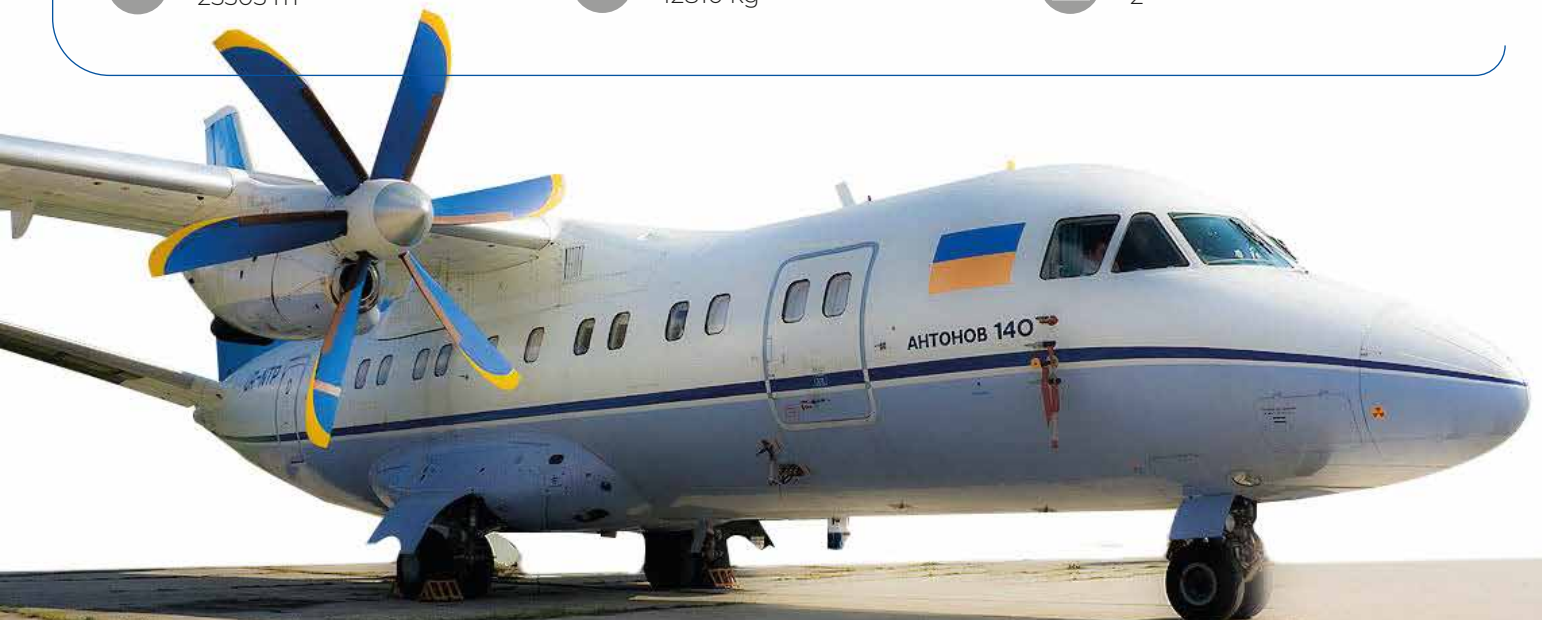
EMPTY WEIGHT

12810 kg



CREW

2





HELICOPTERS

MI-2 MSB-1

LIGHT HELICOPTER

The Mi-2MSB-1 model meets the advanced technological development of aviation and has high-performance characteristics and maneuverability. The application of the newest flight and navigation complex guarantees the safety of passengers, crew, and flights. The helicopter is designed to perform the following types of work:

- VIP transportation
- Passenger transportation
- Tourist services
- Surveillance on land (including in the mountains) and at sea - on-request option
- Rescue on land (including in the mountains) and at sea - on-request option
- Medicine - on-request option
- Fire extinguishing - on-request option
- Other (special application) - on-request option



ENGINE
2 x Ai-450B



MAX TAKEOFF WEIGHT
3 550 kg



FUEL TANK
165 (250) l



PRACTICAL ALTITUDE
4 000 m



MAX SPEED
220 km/h



CREW
1-2



STATIC ALTITUDE
1620 m



CRUISING SPEED
180 km/h



PASSENGERS
6

MI-8 MSB

MULTIPURPOSE HELICOPTER

The MSB-8 multipurpose commercial helicopter has been designed according to a single-rotor (classic) configuration with an av tail rotor.

PURPOSE:

Depending on the configuration of purpose-designed equipment, the helicopter can solve a wide range of commercial tasks as follows:

- Transportation of passengers;
- Transportation of cargo inside cargo/passenger compartment and utilizing external load sling system;
- Search and evacuation of casualties due to emergency;
- Emergency transportation of patients to medical providers;
- Heliborne administering medical aid;
- Fire extinguishing;
- Very important person transportation



ENGINE
2 x TV3-117VMA-SBM1V



SERVICE CEILING
7500 m



CRUISING SPEED
270 km/h



EMPTY WEIGHT
7500 kg



OPERATING RANGE
1030 km



CREW
2-3



MAX TAKEOFF WEIGHT
15000 kg

AIRCRAFT AND HELICOPTERS MODERNIZATION

AN-26 MODERNIZATION

MEDIUM MILITARY TRANSPORT AIRCRAFT

Medium military transport aircraft is equipped with a big cargo door, lowering cargo ramp, mechanization facilities for handling and is intended to transport cargoes, military equipment, personnel, injured and ill persons, as well as for air landing of personnel and military equipment



AN-32 MODERNIZATION

MILITARY TRANSPORT AIRCRAFT

Light military transport multi-purpose aircraft can be operated in various climate conditions, including hot climate (up to +50°C) and from the mountain airfields. The main aircraft's purpose is to transport cargoes over short and medium-range air routes. It can be used for carrying military personnel, aerial delivery of paratroopers, and palletized and non-palletized cargoes. Its ambulance version can be used in missions of the State Emergency Service

The aircraft has high maneuverability for flights to mountain-based airfields with difficult approach conditions



AN-32P MODERNIZATION

FIRE-FIGHTING AIRCRAFT

The aircraft is designed for firefighting by draining-off the extinguishing liquids. It is also capable of delivering and airdropping the smokejumpers and special equipment, fire-extinguishing means to the fire sites

When dropping 8 t of extinguishing liquid out of two tanks from an altitude up to 50 m at speed of 260 km/h, a water spot of 120-160 m long and 10-35 m wide is formed on the ground





AIRCRAFT AND HELICOPTERS MODERNIZATION

MI-24, MI-25, MI-35 MODERNIZATION

- Replacement of pilot's analog sighting complex with a digital sight ASP-17VPM, which significantly enhances the accuracy of application of the airborne weapons
- Installation of a Laser Reticule Shaping System, ensuring the application of unguided weapons at nighttime using Night Vision Goggles (NVG). Using of electro-optical system, sight ASP-17VPM and Laser Reticule Shaping System in complex ensures the around-the-clock application of all helicopter weapons
- Adaptation of the internal and external lights for NVG compatibility to ensure helicopter round-the-clock application
- Equipping of pilot's and operator's cockpits with GPSMAP 695/696 global positioning system, intended for determination and display of navigation parameters, helicopter current position, which ensures en-route flights taking into account the terrain digital model
- Fitting of pilot's cockpit with an optional VHF radio to ensure two-way communication between the helicopter and ground stations and other helicopters within the band of 118.000-136.975 MHz and frequency space 8.33/25 kHz
- Equipping of the helicopter with a portable ELT (emergency locator transmitter), capable to transmit SOS signals on emergency frequencies: 406,028 MHz, 121,5 MHz and 243,0 MHz
- High-level active protection of helicopter from IR guided missiles of different types (Stinger, Igla, Igla-1, R-60, R-60M, R-73, Sidewinder) is achieved by means of fitting of the optronic suppression station Adros KT-01AB as well as the chaff and flare dispenser Adros KUV 26-50 (26 mm and 50 mm in caliber)



MI-24



MI-25



MI-35

SU-24, SU-25 MODERNIZATION



SU-24



SU-25

OTHER AIRCRAFT AND HELICOPTERS MODERNIZATION OPTIONS

AN-24

MIG-29

MI-17

IL-76

SU-27

MI-26

IL-78

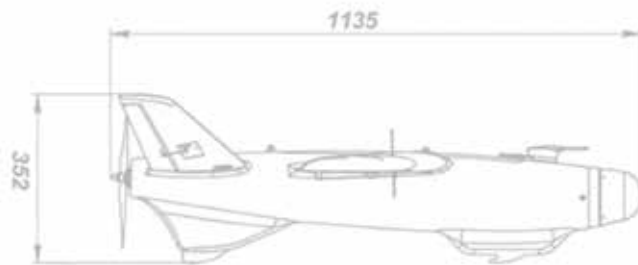
SU-30



CICONIA

UAV COMPLEX

CICONIA is a complex of autonomous remote-controlled UAVs, designed for various tasks such as aerial reconnaissance, patrolling, area mapping with the possibility of online information transfer, and obtaining accurate geographical coordinates in real-time mode. Included autonomous flight. Operation in difficult weather conditions



AREA OF APPLICATION:

- Aerial reconnaissance
- Adjustment of artillery fire
- Border surveillance
- Automation and troop control
- Mapping



POWER UNIT
electric



TEMPERATURE RANGE
from -20 to +55 °C



TAKEOFF WEIGHT
5,5 ± 0,3 kg



CRUISE SPEED
60-70 km/h



WIND RESISTANCE
up to 20 m/s



FLIGHT TIME
2-2,5 h



MAX FLIGHT ALTITUDE
1500 m



OPERATING RANGE
100 km



DIMENSIONS
1980 x 352 x 1135 mm





RAM II

UNMANNED AERIAL SYSTEM

RAM II UAS is high-precision combat loitering unmanned aerial system. It is designed to execute precise effective strikes on enemy forces and to minimize collateral damage when used in the urban area. The drone is equipped with a gyro-stabilized Full HD camera with 10x optical zoom for easy target identification. The main feature is an active visual target tracking system, that allows to lock on the target using real-time video from the onboard video camera and follow the target until the impact. RAM II UAV is powered by a quiet electric engine and has a low noise signature, anti-jamming features an encrypted data link to maximize the security of the mission. Fully loaded combat UAV with 4 kg warhead can operate in a range of 30 km from the launch point and complete both surveillance and combat missions



ENGINE
electric



OPERATING TEMPERATURE
from -20 to +40 °C



LENGTH
1450 mm



CRUISING SPEED
70 km/h



MAX TAKEOFF WEIGHT
9,8 kg



HEIGHT
349 mm



OPERATING RANGE
60 km



PAYLOAD WEIGHT
3 kg



WINGSPAN
2584 mm



RADIO RANGE
30 km



MAX FLIGHT TIME
40 min



PD-2

UNMANNED AERIAL SYSTEM

PD-2 is a multipurpose modular fixed-wing UAS with a wide range of options and payloads to fit any mission and operational environment. PD-2 is a conceptually new product obtained through a large list of innovations and upgrades based on the long-term operation history (more than 10,000 flight hours) of the previous flagship UAS PD-1

Almost all components and modes of the unmanned aerial system were modernized



ENGINE

Reliable 4-stroke



CRUISE SPEED

100 km/h



LAUNCH METHOD

Runway, catapult, vertical



MAX TAKEOFF WEIGHT

55 kg



TIME IN FLIGHT

Up to 10 h



METHOD OF LANDING

Runway, parachute, vertical



OPERATING RANGE

100+ km



MAX FLIGHT ALTITUDE

Up to 5500 m



WINGSPAN

5 m

SPARROW LE

UNMANNED AERIAL SYSTEM

Has a glide aerodynamic classical shape with V-tail, which ensures long flight time and cost-effectiveness during the combat tasks performing. Equipped with gyro-stabilized and controllable on two axes and focus camera and a thermal imager. If required, it is equipped with specific sensors: a photo camera, a relay, a dosimeter, and other sensors. The frame is produced from specific composite materials, which makes it less visible for radars and thermal imagers. Vehicle dimensions and silence make it almost invisible at cruise altitude



ENGINE

electric



CRUISE SPEED

60-110 km/hour



LAUNCH METHOD

by hand



MAX TAKEOFF WEIGHT

7 kg



OPERATING TEMPERATURE

from -30°C up to +40°C



METHOD OF LANDING

on a parachute / by air



OPERATING RANGE

250 km



MAX FLIGHT ALTITUDE

5000 m



WINGSPAN

3 m



RAYBIRD 3

UNMANNED AERIAL SYSTEM

Small unmanned aerial system for different long-range missions, ISTAR solutions, and SAR applications.

Man-portable (one-box) system ready to be deployed in minutes. The modular flying platform allows the changing of various function modules easily. Payload packages can alternatively include radio relays and electric warfare/countermeasure equipment.

Vertically integrated design and production processes allow us to manufacture systems to the client's needs. This also provides top-notch maintenance during UAS exploitation and enables modifications as client's needs evolve



TAKEOFF WEIGHT
21 kg



CRUISE SPEED
120 km/hour



LAUNCH METHOD
from the catapult



MAX FLIGHT ALTITUDE
3000 m



OPERATING TEMPERATURE
from -20°C up to +45°C



METHOD OF LANDING
on a parachute



TIME IN FLIGHT
More than 24 hours



OPERATING RANGE
Video link — up to 140 km
In aut. mode — 2500 km



WINGSPAN
2,9 m



KENTAVR

FAST ASSAULT CRAFT

The purpose of the craft is fast and secret delivery of marines or special forces, fire support of land flank under engagement in littoral and inland waters (estuaries, rivers and water-storage basins) at the range from the safe port up to 100 miles

SENSORS AND COMMUNICATION

- Navigation radar
- Optoelectronic monitoring system
- Detection sensors of laser emission

WEAPONS

- 2 combat modules:
- 2,7 mm machine gun
 - 40 mm grenade launcher (NATO standard)



PROPULSION
2 diesel engines



DISPLACEMENT, FULL LOAD
47 t



LENGTH, OVERALL
24,3 m



MAX SPEED
not less than 35 kts



ENDURANCE
5 days



BEAM, OVERALL
4,8 m



RANGE (AT 11 KTS)
not less 500 nm



LANDING FORCE CAPACITY
26-28 commandos



DRAUGHT, MAX
1,0 m

GURZA-M

SMALL ARMORED BOAT

SENSORS AND COMMUNICATION

- Navigation radar
- Optoelectronic monitoring system
- Detection sensors of laser emission
- Integrated bridge system

WEAPONS

- 2 combat modules of Katran-M type:
- 30 mm gun
 - 30 mm grenade launcher
 - 7.62 mm machine gun
 - ATGM "Barrier" type
 - Portable SAM
 - Mining facility



PROPULSION
2 diesel engines



DISPLACEMENT, FULL LOAD
54 t



LENGTH, OVERALL
23,0 m



MAX SPEED
not less than 25 kts



ENDURANCE
5 days



BEAM, OVERALL
4,8 m



RANGE (AT 12 KTS)
not less than 900 nm



COMPLEMENT
5



DRAUGHT, MAX
1,0 m



DOZOR

OFFSHORE PATROL VESSEL

Designed to secure the state borders and the state sovereign rights in the Exclusive (Sea) Economic Zone

SENSORS AND COMMUNICATION

- Surveillance radar
- Navigation radar
- Optoelectronic fire control system
- Integrated bridge system

WEAPONS

- 76 mm gun
- 30 mm gun
- Fast interceptor boat



PROPULSION
2 diesel engines



RANGE (AT 12 KTS)
3800 nm



ENDURANCE
15 days



DISPLACEMENT, FULL LOAD
960 t



LENGTH, OVERALL
73,7 m



BEAM, OVERALL
10,98 m



DRAUGHT, MAX
3,5 m



GAYDUK-M

MULTIPURPOSE CORVETTE

The corvette searches and detects surface and underwater targets, as well as provides air, surface and underwater countermeasures

SENSORS AND COMMUNICATION

- SMART Mk2 3D Air/Surface surveillance radar
- Over the Horizon Surface Targeting radar
- Sting EO Optical-Radar Fire Control System
- Optoelectronic Fire Control System
- TACTICOS CMS
- ESM and Chaff decoy launcher
- OESM
- Hull mounted sonar
- Intruder detection sonar
- Navigation radar
- Integrated bridge system

WEAPONS

- 2x4 MM40 Block3 SSM
- 8 MICA VL SAM system
- 76 mm OTO Melara gun
- 35 mm Millennium gun
- 2x12,7 mm machine guns
- 2x2 — 324 mm torpedo launchers
- 2 ASW Rocket
- Launchers (option)
- Helicopter up to 6 t



MAX SPEED
not less than 28-32 kts



COMPLEMENT
52



PROPULSION
15 days



LENGTH, OVERALL
85,75 m



BEAM, OVERALL
10,2 m



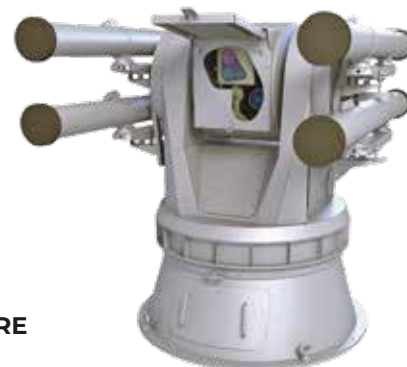
DRAUGHT, ON DESIGN WL
3,1 m



BAR'ER-VK

NAVAL MISSILE GUIDED WEAPON SYSTEM

BAR'ER-VK Naval Missile Guided Weapon System is designed to destroy ships as well as coastal moving and stationary modern armored targets with missiles RK-2V



MAXIMUM FIRING RANGE
not less than 7000 m



OPERATING TEMPERATURE
from -40°C up to +60°C



TARGET DETECTION RANGE
10 — day, 7 — night



WEIGHT OF SYSTEM
1100 kg



FLIGHT TIME TO MAX RANGE
62,00 m



WEIGHT OF MISSILE
47,2 kg

ARBALET-K

NAVAL SHORT RANGE AIR DEFENSE SYSTEM

ARBALET-K naval short-range air-defense missile system is designed to destroy jet, propjet, and propeller-driven aircraft and helicopters at head-on and pursuit courses, under conditions of a target direct visibility using surface-to-air missile of Igla type



TARGET DESTRUCTION RANGE
500-5000 m



OPERATING TEMPERATURE
from -40°C up to +60°C



TARGET DETECTION RANGE
10 — day, 7 — night



OVERALL DIMENSIONS
1700 X 1856 X 1876 mm



WEIGHT OF SYSTEM
1020 kg





SHIPBOARD WEAPON SYSTEMS

NAM-30

ARTILLERY MOUNT


WEAPON:

30 mm gun
Firing speed — 350-400 shot/min


WEAPONS CONTROL:

Traverse: 360°
Elevation: -15° to +60°


SPEED OF TARGETING:

Traverse: 0,05°/sec ÷36°/sec
Vertical: -0,05°/sec ÷36°/sec

NAM-30M

ARTILLERY MOUNT


WEAPON:

30 mm gun ZTM-1
7,62 mm machine gun
300 mm grenade launcher AGS-17
ATGM-P-2V


WEAPONS CONTROL:

Traverse: 360°
Elevation: -15° to +60°


SPEED OF TARGETING:

Traverse: 0,05°/sec ÷36°/sec
Vertical: -0,05°/sec ÷36°/sec
Stabilization system

AK-306

ARTILLERY MOUNT



AUTOMATIC GUN: AO-18L
CALIBER: 30 mm

Rate of fire, rounds per min: 600-1000
Initial velocity m/sec: 880


AMMUNITION CAPACITY:

Main, cartridges: 500


RANGE OF FIRE:

Air targets: 4000 m
Surface targets: 5000 m

Weight of mount: 1100 kg

AK-630M

ARTILLERY MOUNT



GUN MARK: AO-18
CALIBER: 30 mm

Rate of fire, rounds per min: 4000-5000


AMMUNITION CAPACITY:

Main, cartridges: 2000
Additional stock, cartridges: 1000


RANGE OF FIRE:

Air targets: 4000 m
Surface targets: 5000 m

Total weight of mount (without
ammunition and SPTA): 1850 kg

LOAD-CARRYING CAPACITY OF 400 TO 30 000 T

400 T
4,500 T
8,500 T
16,500 T
25,000 T
30,000 T

- Classification – IACS
- Non-self-propelled
- Self-contained regarding power supply (option)
- Composite (reinforced concrete pontoon, steel sidewalls)
- Is intended for all kinds of repairs of vessels and floating craft





FLOATING DOCKS

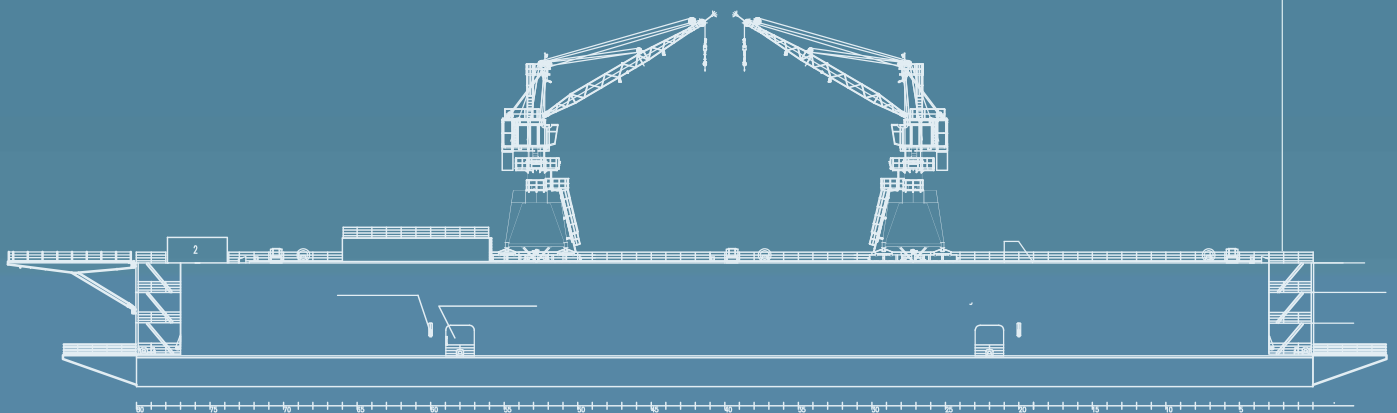
The marine constructions designed for shipbuilding and ship repair in the sea (ocean) and harbor conditions

DOCK TYPES: metal and composite

A hallmark of composite docks is that their pontoon parts are made of reinforced concrete and wing-walls are metallic, which is dictated by the maximum effectiveness of this construction

The use of unique non-caisson technology of the longitudinal transversal jointing a float of separate parts of reinforced concrete pontoons gives the possibility to construct the docks of unlimited dimensions

Mechanical, electromechanical, and paint shops are placed in metal towers which permit to carry of ships and vessels repair in autonomous mode. The floating docks are characterized by high safety factors and can be towed to any part of the world by sea



SENS-2

OPTICAL ELECTRONIC SYSTEM

It is designed for surface visual monitoring, target detection and fire control



MEASURED RANGE
from 100 to 7000 m



MAXIMUM SPEED OF TRACKED TARGETS AT ZERO PARAMETERS
aerial — 0-700 m/s, marine — 0-60 units



RADAR AND NAVIGATION EQUIPMENT AVAILABLE:

- Naval automated tactical data system
- Multibeam active array surveillance radar station
- Optical electronic system of the provision of helicopter take-off, homing, and SAGA ship landing
- Marine optoelectronic fire-control system of small and Sarmat middle artillery caliber
- Sarmat-2 optoelectronic fire control system
- Mineral-ME multifunctional target designation radar system
- Sonar Station MG – 361 (“Centaur”)
- Delta naval 2D surveillance solid-state radar
- Meganom shipborne over-the-horizon passive radar system
- Naval surveillance multi-beam active phased array radar MAARS
- Burevestnik-1M radar unit
- Positiv-E ship three-coordinate radar
- Stilet-2 fire control system with active array radar
- Kaskad integrated self-defense system for small ships
- Farad naval multifunctional active-phased array radar
- KASHTAN-3M combined laser ESM/ECM system
- SELENA-X infrared search and track system
- STILET shipboard combined optical and radar tracking system



SELENA-X



FARAD



MAARS



STILET



SONAR COMPLEXES AND SYSTEMS

TRONKA-MK

HYDROACOUSTIC STATION FOR SEARCHING OF SABOTEUR UNDERWATER SWIMMERS

The hydroacoustic station is designed for searching and detection of saboteur underwater swimmers and protects from:

- Ships of different purpose on moorage at the high sea, on the move, in stationing site
- Hydrotechnical objects in ports, harbors
- Objects of oil-producing industry located in sea basins



DETECTION RANGE
up to 1000 m



ANGULAR FIELD OF VIEW
30°, 360° — horizontal



RANGE ACCURACY
1,0%



AUTO TARGET TRACKING
up to 20



AZIMUTH ACCURACY
0,8°



ANTENNA IMMERSION DEPTH
up to 50 m

OLYMP-3K

POSITIONAL HYDROACOUSTIC STATION

Positional cable sonars are designed for lighting purposes at depths of 40-200 m for intrusion detection in territorial waters or areas where critical facilities are situated. Such sonars operate in noise detecting mode allowing them to stay undetected



DETECTION RANGE
4 km



TARGET CLASSIFICATION
automatic



DEEPENING
40-200 m



OBSERVATION SECTOR
omnidirectional



THE AVERAGE ERROR IN THE DETERMINATION OF BEARING
5°



THE SERVICE LIFE
24 month



WEIGHT
40 kg

KM-7.62

MACHINE GUN MAJAK

The KM-7.62 machine gun is made for 7.62 x 54R cartridges. The machine gun is designed for regular military and special forces units



FIRING RANGE
2000 m



FEED SYSTEM
belt with 100, 200 and 250 cartridges



RATE OF FIRE
650 rounds/min



MUZZLE VELOCITY
855 m/s



CARTRIDGES
7,62x54 mm



RIFLING
4 grooves (right)



BARREL LENGTH
722 mm



WEIGHT
8 kg



LENGTH
1098 mm

KTM-7.62

TANK MACHINE GUN MAJAK

The KTM-7.62 tank machine gun has Picatinny rail, firing trigger and mechanical rifle scope instead of electronic trigger

Purpose: as an auxiliary tank weapon on aircraft and other military equipment



FIRING RANGE
2000 m



FEED SYSTEM
belt with 100, 200 and 250 cartridges



MUZZLE VELOCITY
800 m/s



CARTRIDGES
7,62x54 mm



RIFLING
4 grooves (right)



WEIGHT OF BOX WITH BELT
8 kg



WEIGHT WITHOUT CARTRIDGES
10,5 kg



BARREL WEIGHT
3,23 kg



LENGTH
1098 mm



BARREL LENGTH
722 mm



NSVT 12.7

HEAVY MACHINE GUN

A 12.7 mm NSVT is a vehicle-mounted heavy machine gun, which is equipped with an electrical trigger. The special tank mount has a buffered cradle, traverse and elevation mechanisms and special collimating sight



CALIBER
130 mm



WEIGHT
25 kg (gun only)



RATE OF FIRE
700-800 rounds/min



OVERALL LENGTH
1560 mm



UAR-10

HIGH PRECISION TACTICAL RIFLE

The sniper rifle has a convenient design: it can be disassembled into two parts, which reduces its dimensions and provides compactness during transportation

The rifle's barrel is console-shaped, which achieves the stability of the firing. On the upper part of the receiver and the cranks, Piccadilly-type guides are designed for sighting gadgets and other accessories. A rifle can be fitted with a muffler to reduce the sound and flash during a shooting. It is provided with a MagPul PRS with an adjustable cheek and a retractable collar. The design feature of the UAR-10 is the permanent connection of the grip handle with the shutter frame. It allows both to pull a stuck round and to make a manual link



CALIBER
7.62x51 mm NATO



OVERALL LENGTH
940 – 1045 mm



BARREL LENGTH
16" – 20" / 406 – 508 mm



WEIGHT
3,8 – 5 kg



UAR-15

HIGH-PRECISION TACTICAL RIFLE

The platform shows high reliability and simple maintenance in all climate zones including extremely hot/cold and humid environments

The easy and reliable installation of sights, lasers, tactical lights, and other accessories makes this rifle adaptive for many tasks or purposes as well for the individual user preferences or requirements



CALIBER
7.62x51 mm NATO



OVERALL LENGTH
940 – 1045 mm



BARREL LENGTH
16" – 20" / 406 – 508 mm



WEIGHT
3,8 – 5 kg



7.62x51 LMG

LMG-ASSAULT-MARKSMAN RIFLE SYSTEM

- fully mechanical system (no thermostats)
- always under operator`s manual control
- AR weight, ergonomics, and manipulation
- integrated into DI AR mechanics (adjustability and bolt service life preservation)
- standard AR-10-AR-15 receiver integration (option)
- automatic safety integration
- no external components
- little to no impact on system weight and balance
- multi-role weapon system MG/light assault weapon/DMR



FIRING RANGE
2000 m



WEAPON WEIGHT
8 kg



AMMO CAPACITY
10/20/25 box mag,
5/100 dram mag



WEAPON LENGTH
1098 mm



FIRE MODE
Semi (closed bolt)/ full auto



BARREL LENGTH
722 mm



OPTIC / LASER / ACCESSORY
+





VULCAN (MALYUK)

AUTOMATIC RIFLE

Due to its small dimensions, the Malyuk rifle can be used in SMG tactical niche. In this role, a special type of 5.45 mm ammunition is used. This type of ammo has 500 m/s speed and can be supplied with or without a steel penetrative core

Advantages of Malyuk weapon-ammo complex:

- Absence of ricochets, usual for standard 5.45 mm
- Absence of over-penetration through target body or obstacle
- Substantial decrease of felt recoil, superb weapon controllability
- Ballistics match standard on actual SMG deployment ranges (50-100 m) Behind the effective range bullet becomes safe fast
- Advanced functionality with the same weight is much more effective than simply adding new heavy components
- Ergonomically designed elements were made with speed and secure deployment in mind



FIRING RANGE

500 m



AMMO CAPACITY

30 / 45 rounds



AMMUNITION TYPE

5.45, 5.56, 7.62



WEIGHT

3,2 kg



MUZZLE VELOCITY (5.45/5.56/7.62)

900 / 940 / 715 shots/sec



LENGTH

710 mm



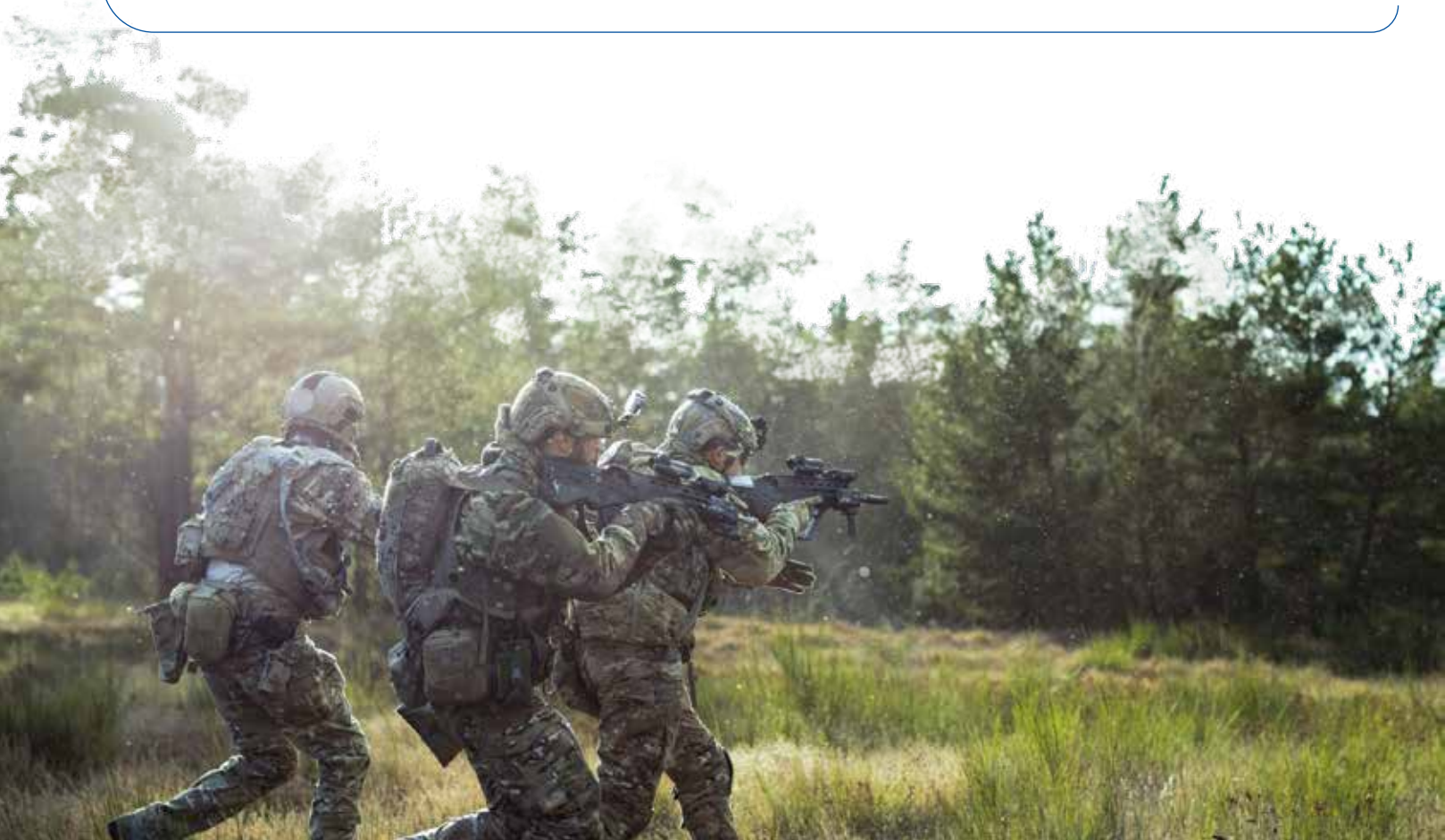
RATE OF FIRE

660 rd/min



BARREL LENGTH

722 mm



M-60

60 MM CALIBER MORTAR

The mortar is designed to defeat manpower and enemy's facilities, especially those located outside the shelter: in trenches, gullies and at reverse hill slopes. The M-60 is employed with high-explosive bombs, bombs with aerodynamic configuration, including NATO standards



CALIBER
60 mm



FIRING RANGE
50 - 3500 m



LAYING ANGLES
+45° — +85°



KBA-48M

82 MM CALIBER MORTAR

Designed to defeat manpower and enemy's facilities, especially those located outside the shelter: in trenches, gullies and at reverse hill slopes, to destroy fortifications. It is used in quick-reaction special units and infantry units of Land Forces



CALIBER
82 mm



RATE OF FIRE
10-15 shots/min



WEIGHT
70 kg



M120-15

120 MM CALIBER MORTAR

The mortar M120-15 is a smoothbore rigid system, charging is carried out from muzzle which is intended to defeat manpower and enemy's facilities. The fuse from double charging and rear sight MUM 706 M is installed on the muzzle part



FIRING RANGE
7100 m



RATE OF FIRE
15 rounds/min



WEIGHT
210 kg

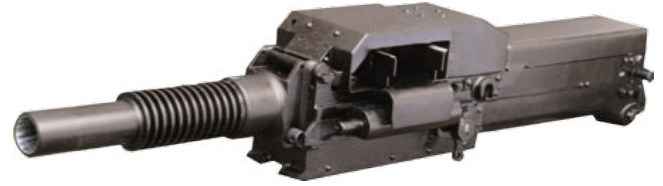




KBA-117

AUTOMATIC GRENADE LAUNCHER

It is designed to defeat an enemy's manpower and fire weapons located in the open terrain or entrenched. It is used in a combat module mounted on lightly armored vehicles (ICVs, APCs, etc.)



CALIBER
30 mm



GRENADE MUZZLE VELOCITY
185 m/s



RATE OF FIRE
not less than
400 shots/min



LENGTH
840 mm

UAG-40

AUTOMATIC GRENADE LAUNCHER

Automatic grenade launcher with 40 mm bore shoots for a distance of over 2200 meters. It is intended for firing at enemy's infantry, light-armored vehicles, and protected shelters



CALIBER
40 mm



HEIGHT
210 mm



RATE OF FIRE
370-400 shots/min



LENGTH
960 mm



FIRING RANGE
40 – 1500 m



WEIGHT (WITHOUT GRENADE)
17 kg

GP-25

UNDERBARREL GRENADE LAUNCHER

GP-25 has been adopted for usage with both 7.62 mm AKM and 5.45 mm AK-74 Kalashnikov assault rifles. GP-25 uses the 40 mm fragmentation grenades VOG-25, VOG-25P, and a less-lethal 'Gvozd' (Nail) canister round with tear gas. On the GP-25, sight is mounted on the left side of the launcher and has an additional indirect firescale for firing at longer ranges (up to 400 meters). The grenade launcher has the rubber recoil pad installed



The barrel of the single-shot launcher is rifled. Grenades are loaded from the muzzle and are held in the barrel by a spring catch

BTR-3E1

INTEGRATED CREW TRAINING SIMULATOR



BTR-4

INTEGRATED CREW TRAINING SIMULATOR



BTR-80

INTEGRATED CREW TRAINING SIMULATOR



BMP-1

INTEGRATED CREW TRAINING SIMULATOR



SIMULATORS

AVIATION

INTEGRATED CREW TRAINING SIMULATOR



ATGM

INTEGRATED CREW TRAINING SIMULATOR







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