



KOMONDOR armoured vehicle family

Dear Reader,

It is my great pleasure to introduce the activity and product line of the GAMMA Technical Corporation, a significant defence equipment manufacturer company, with the widest defence product portfolio in Hungary. GAMMA was founded in 1920 and with several decades of experience Gamma's products are mainly made for military, civil protection and radiation protection applications.

Our company has always been involved in the R&D of innovative technological solutions, where our intention is to pay special attention to the demand of our Customers. With all our expertise, we are open to support our partners in the planning and realization of any kind of projects in our fields of activity.

Our extensive product range consists of radiation detection and measuring instruments, integrated CBRN/HazMat reconnaissance systems, monitoring and early warning networks, meteorological instruments, as well as reconnaissance and first response vehicles, personal respiratory protective equipment, decontamination systems, special purpose vehicles and trailers. The company has developed the Hungarian "KOMONDOR" Light Armoured Vehicle Family, too.

The KOMONDOR light armoured vehicle family belongs to our Special Vehicle division.

In the followings, we are glad to give you a short summary of our light armoured vehicle product range, what we think and hope to be of interest to you.

Please take the time and download our presentation and the product catalogues of our company using the links on the back of this catalogue. More details about the products can be found at our webpage (www.gammatech.hu).

Should you need any further information please do not hesitate to contact us, we will always be at your service with pleasure.

Yours faithfully,

Dr. Attila Zsitnyányi, PhD

CEO
GAMMA Technical Corporation



The KOMONDOR armoured vehicle family

Multipurpose armoured vehicles, providing multiple variations of utilization by being suitable for modification for interservice battle, special services and tasks.



RDO 3121, RDO 3221, RDO 3921 - 4x4 WD vehicle with monocoque armour body

RDO 3932 - 6x6 WD vehicle with monocoque armour body



RDO 3922, RDO 3932, RDO 4332, RDO 4336 4x4 or 6x6 WD vehicle with half armour body

Multifunctional solution, agile and protected

- wide range of interchangeable specialized modular superstructures
- quick reaction to demands, even for small series, special pieces
- flexibility to individual requirements
- competitive price
- wide range of available subsystems
- Ready for technology transfer / local production

The KOMONDOR light armoured vehicle, developed by GAMMA Technical Corporation, is an MRAP vehicle with a high level of protection, which at the same time provides great maneuverability and off-road capability.

As the design and final configuration of the vehicle is widely variable the KOMONDOR family is a unique, multipurpose platform, which can be used for almost any purpose by any possible customers.

Our company is open and ready to develop and construct any vehicle that is suitable for your individual demands.

We are also open to support customers who wish to make their own light-armoured vehicles based on our technology through technology transfer.

	Main characteristic
Max. speed	road 90-105 km/h, ≥40 km/h off-road (depends on terrain)
Fording capability	Min. 600 mm without preparation, up to 1200 mm with preparation
Angle of approach	≥35°
Angle of departure	≥30°
Slide slope	≥20°
Ground clearance	>360 mm under differential, ≥500 mm under centre

The high angle of approach and departure, the great ground clearance and the 18-25 HP/t power ratio are such a features which grant adequate mobility in all circumstances.



Beyond the base protection, which can be raised with add-on modules, the survivability both of vehicle and crew is ensured through the implemented up-to-date solutions, such as:

- over pressured and filtered crew compartment,
- central automatic fire extinguishing system,
- mine blast mitigation seats,
- spall liner inside cover,
- CTIS,
- run-flat system,
- surround area surveillance (day/night) system,
- passive night vision goggles,
- self recovery equipment,
- preparation of turret mount for weapon station or other equipment.



Modular and scalable add-on protection

Thanks to the welded, monocoque “V” shaped design, the quality armour plates and various ballistic materials, all variants comply with the following protection level, according to the NATO STANAG 4569:

	Optional protection level
Ballistic protection	Level L3 (7.62 x 51 AP)
Mine protection	Level 3a/3b (8 kg (explosive mass) blast AT mine explosion under wheel/under centre)

- 4x4 WD configuration
- Independent or rigid suspension
- Vehicle with monocoque armour body



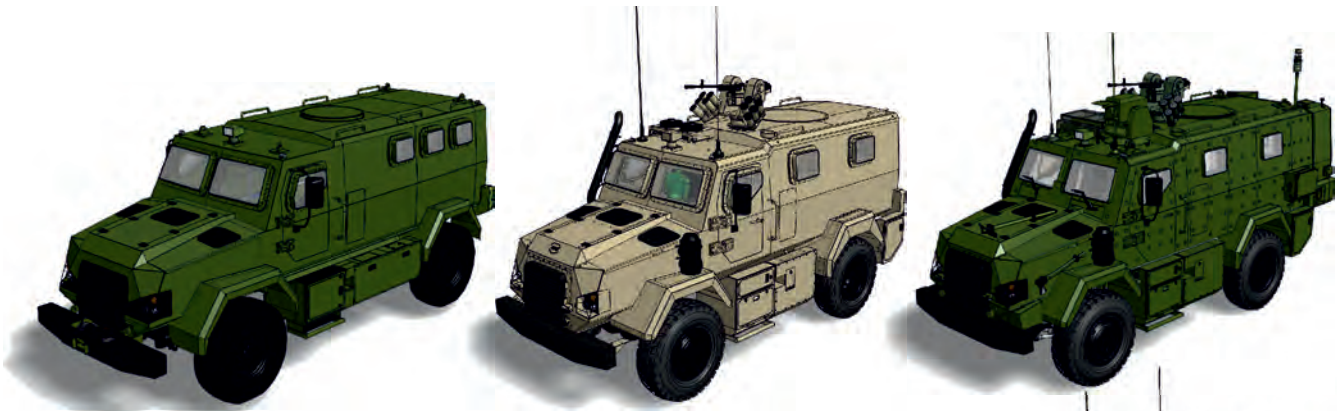
Some examples of possible variants:

- reconnaissance vehicle
- air defence missile carrier and launcher vehicle
- mortar carrier and launcher vehicle
- ATGM carrier and launcher vehicle
- recovery or other logistic vehicle
- disaster management applications
- any other variant for special tasks

Characteristic	Parameter
Gross weight	Up to 12700 kg
Wheelbase	3100 mm
Length	4980 mm
Height	2500 mm
Width	2096 mm
Front approach	≥36°
Rear departure	≥42°
Ground clearance	360 mm under differential
Ground clearance	398 mm under body
Fording	min. 600 mm without preparation
Engine output	320 HP
Road speed	max. 95 km/h
Steering	Mechanical, hydraulic power assisted
Transmission	Mechanical, 6-speed with synchronizers, semiautomatic or automatic
Armour body	Monocoque body
Protection	According to NATO STANAG 4569 <ul style="list-style-type: none">• Basic ballistic protection level L3• Basic mine protection level 2b



- 4x4 WD configuration
- Independent or rigid suspension
- Vehicle with monocoque armour body

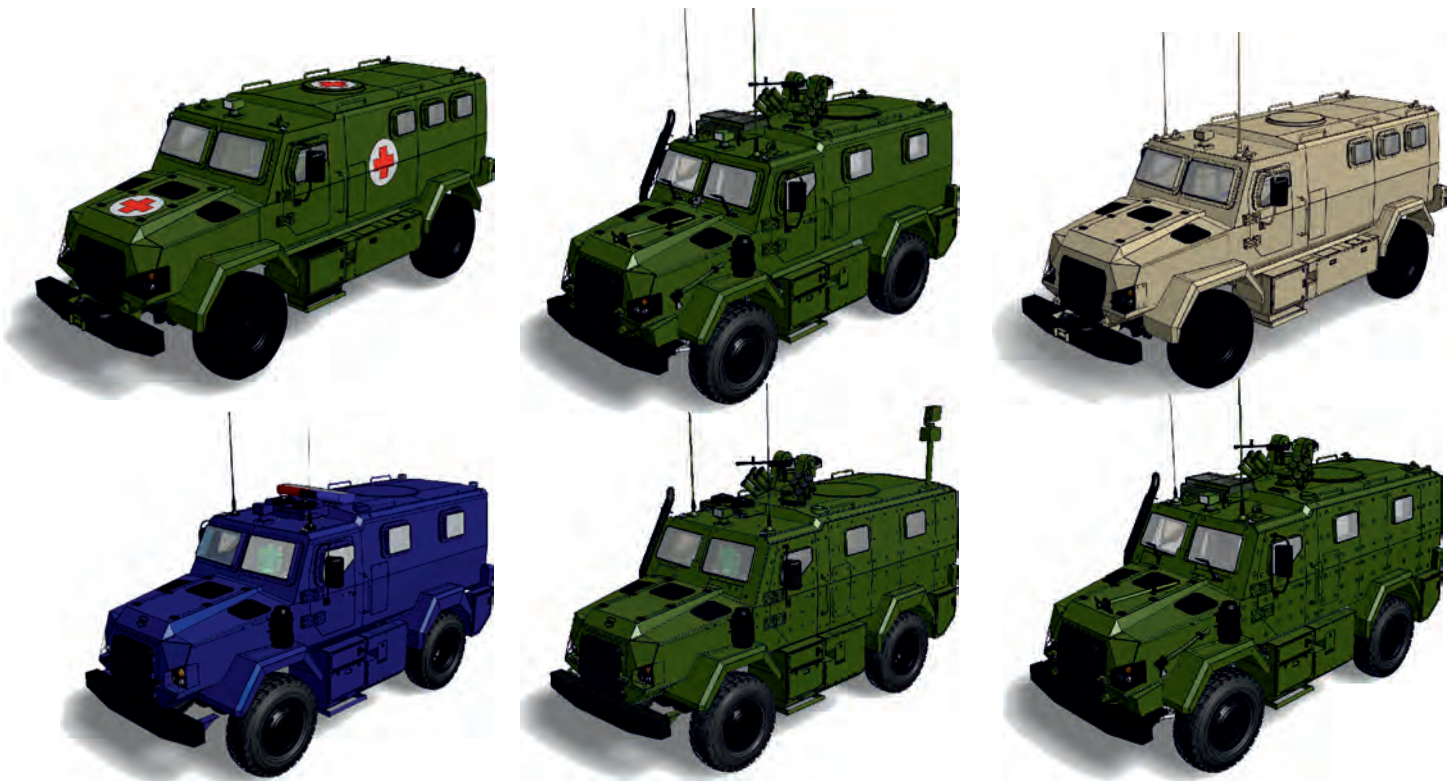


Some examples of possible variants:

- mobile command post
- CBRN reconnaissance vehicle
- forward observer
- reconnaissance vehicle
- armoured ambulance vehicle
- air defence missile carrier and launcher vehicle
- mortar carrier and launcher vehicle
- ATGM carrier and launcher vehicle
- recovery or other logistic vehicle
- disaster management applications
- any other variant for special tasks



Characteristic	Parameter
Gross weight	Up to 16500 kg
Wheelbase	3200 mm / 3900 mm
Length	6290-6600 mm
Height	≤ 2880 mm
Width	2445-2530 mm
Front approach	≥30°
Rear departure	≥35°
Ground clearance	390-413 mm under differential
Ground clearance	≥500 mm under body
Fording	min. 600 mm without preparation
Engine output	286-360 HP
Road speed	max. 105 km/h
Steering	Mechanical, hydraulic power assisted
Transmission	Mechanical, 6-speed with synchronizers, semiautomatic or automatic
Armour body	Monocoque body
Protection	According to NATO STANAG 4569 <ul style="list-style-type: none">• Basic ballistic protection level L3• Basic mine protection level 3a/3b



- 6x6 WD configuration
- Independent or rigid suspension
- Vehicle with monocoque armour body



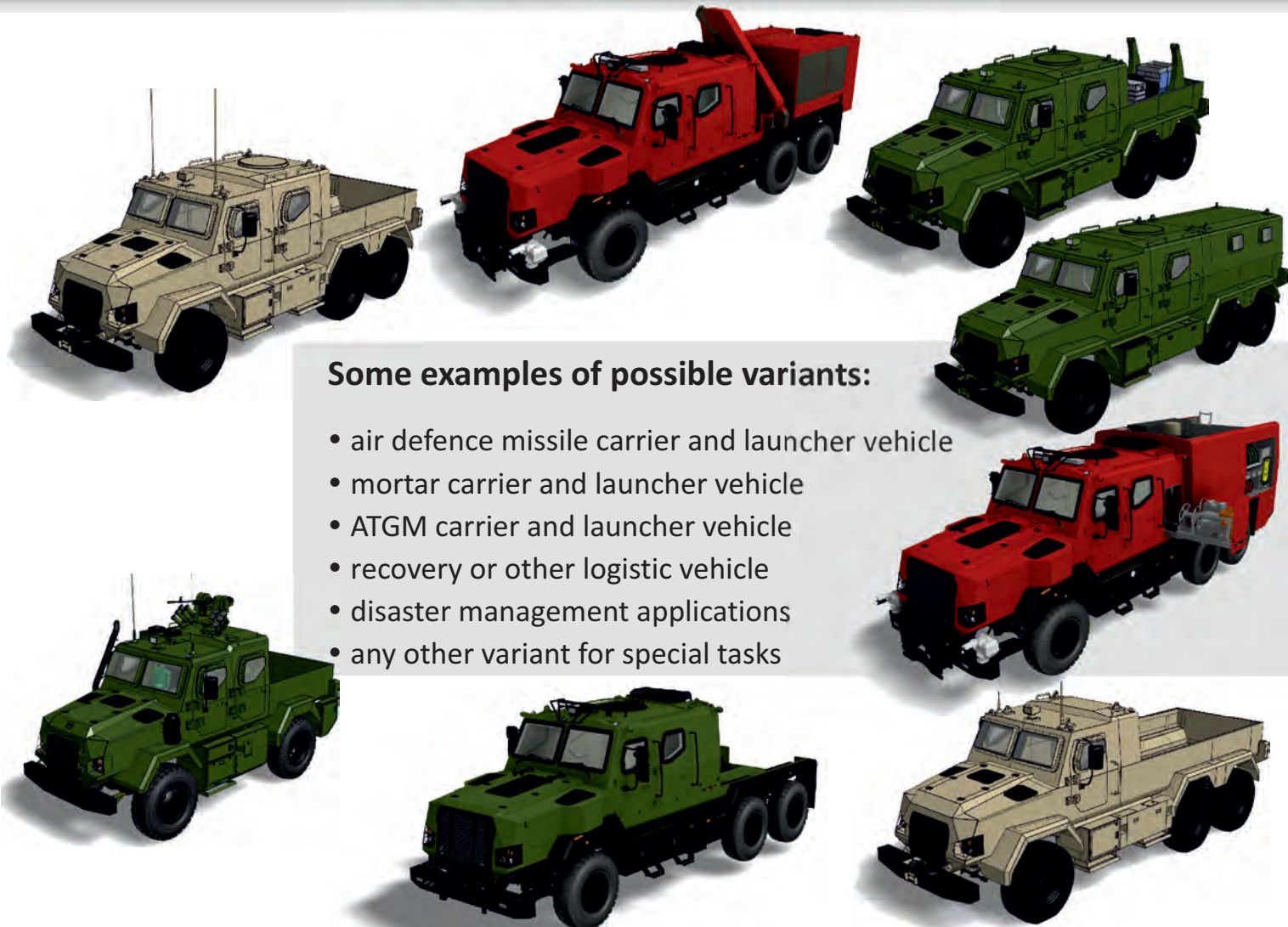
Some examples of possible variants:

- mobile command post
- armoured ambulance vehicle
- disaster management applications
- any other variant for special tasks

Characteristic	Parameter
Gross weight	Up to 22100 kg
Wheelbase	3200 mm + 1400 mm / 3900 mm + 1400 mm
Length	7570-8000 mm
Height	≤ 2880 mm
Width	2500-2530 mm
Front approach	≥30°
Rear departure	≥35°
Ground clearance	390-413 mm under differential
Ground clearance	≥500 mm under body
Fording	min. 600 mm without preparation
Engine output	320-450 HP
Road speed	max. 95 km/h
Steering	Mechanical, hydraulic power assisted
Transmission	Mechanical, 6-speed with synchronizers, semiautomatic or automatic
Armour body	Monocoque body
Protection	According to NATO STANAG 4569 <ul style="list-style-type: none">• Basic ballistic protection level L3• Basic mine protection level 3a/3b



- 4x4 or 6x6 WD configuration
- Independent or rigid suspension
- Vehicle with half armour body
(RDO 3122, 3222, 3232, 3922, 3932, 4332 versions)



Some examples of possible variants:

- air defence missile carrier and launcher vehicle
- mortar carrier and launcher vehicle
- ATGM carrier and launcher vehicle
- recovery or other logistic vehicle
- disaster management applications
- any other variant for special tasks

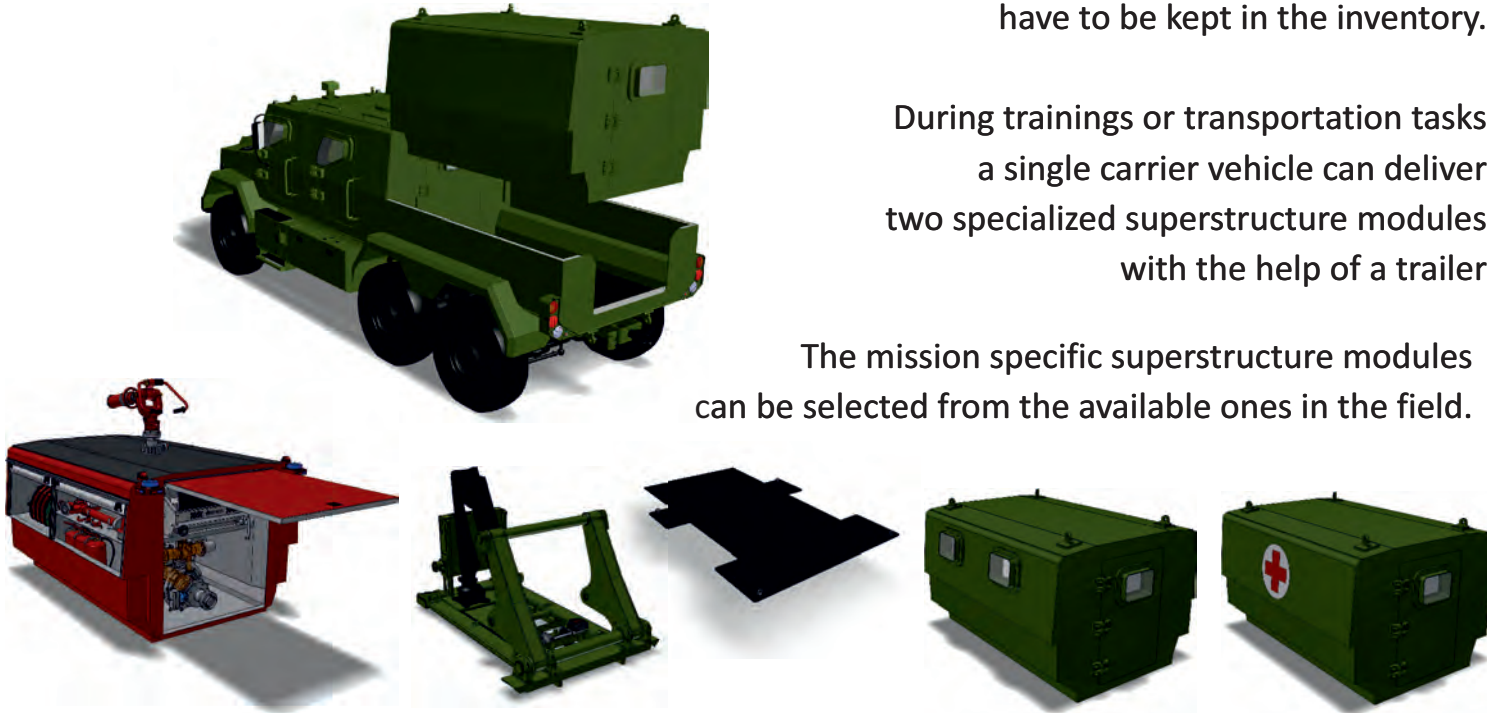
Unique and cost effective solution: interchangeable superstructure modules

Thanks to the interchangeable, specialized superstructure modules, fewer base vehicles have to be kept in the inventory.

During trainings or transportation tasks a single carrier vehicle can deliver two specialized superstructure modules with the help of a trailer

The mission specific superstructure modules can be selected from the available ones in the field.

Characteristic	Parameter
Gross weight	Up to 22100 kg
Wheelbase	3100 mm / 3200 mm / 3900 mm / 3200 mm + 1400 mm / 3900 mm + 1400 mm
Length	4980-8000 mm
Height	2500-2880 mm
Width	2096-2530 mm
Front approach	≥30°
Rear departure	≥35°
Ground clearance	360-413 mm under differential
Ground clearance	398-≥500 mm under body
Fording	min. 600 mm without preparation
Engine output	286-450 HP
Road speed	max. 95 km/h – 105 km/h
Steering	Mechanical, hydraulic power assisted
Transmission	Mechanical, 6-speed with synchronizers, semiautomatic or automatic
Armour body	Monocoque body
Protection	According to NATO STANAG 4569 <ul style="list-style-type: none">• Basic ballistic protection level L3• Basic mine protection level 2b-3a/3b



In case of the malfunction of the base vehicle the specialized superstructure module can be deployed within a short time using another carrier.



Variants examples			RDO 3121	RDO 3221	RDO 3222	RDO 3231	RDO 3921	RDO 3931	RDO 3932	RDO 4332	RDO 4336
Length (mm)			5200-5500		6000-6400	7000-7500	6400-6900	7500-8200		8500-9000	
Width (mm)			2440	2445	2445	2445	2500	2500	2500	2550	2550
Height (mm)			2500	2880	2880	2790	2790	2790	2790	2790	3050
Crew			2-6	2-9	2-5	2-12	2-5	2-12	2-5	2-14	2-6
Wheel formula			4x4	4x4	4x4	6x6	4x4	6x6	6x6	6x6	6x6
Wheel base (mm)			3100	3200	3200	3200+1400	3900	3900+1400	3900+1400	4300+1500	4300+1500
G.V.W. (kg)			17500	17500	16500	16500	18000	27000	27000	31000	31000
Fording (mm)	900-1200 according to chosen tyres and suspension										
Road speed (km/h)	up to 120										
Range (km)	on normal road condition not less than 800										
Engine	Non rated or with requested emission level up to EURO 6 in the range of 260-550 HP										
Transmission	Base version is automatic with retarder optionally semiautomatic or mechanical										
Suspension	Independent suspension with coil springs, but can be rigid solution as well										
Brakes	Air cooled disk brakes with double circuit air system, ABS, CTIS, drum brakes available as option										
Tyres	Michelin XZL2 military tyres with run-flat system										
Hull	Welded "V" shaped monocoque body under the whole vehicle										
Ballistic protection	Basic L2 (NATO 4569) can be upgraded up to L4										
Mine protection	Basic 2a/2b (NATO 4569) can be upgraded up to 3a/3b										



* any parameter can be changed without notice

Next pages....



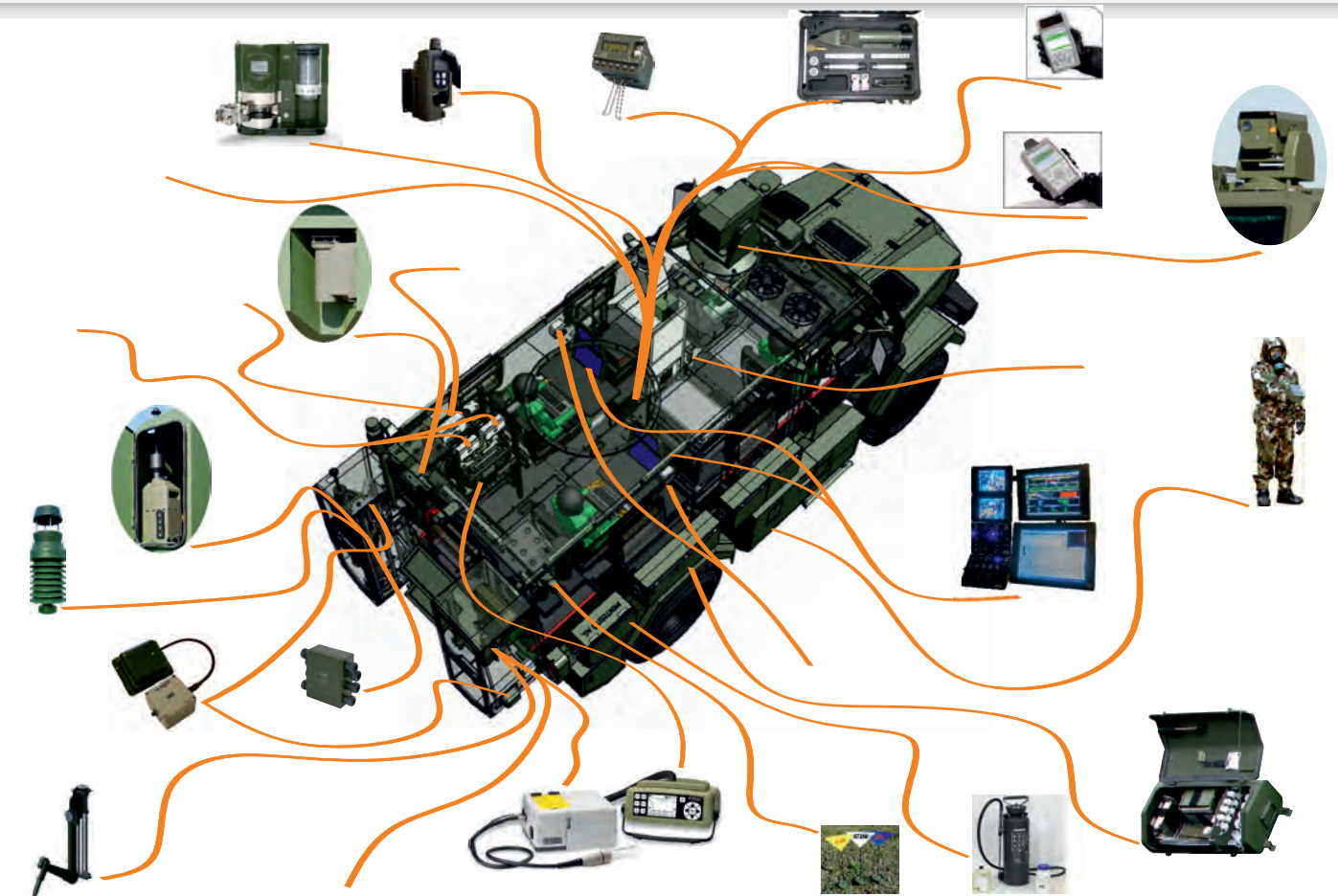
Main features:

- Crew capacity up to 2+5 person
- Space and fixing points for personal weapons and stuff
- Armoured , NBC filtered, over pressurized, and air conditioned compartment
- All around surveillance camera system
- Blast mitigation seats
- Rotatable roof hatches (preparation of turret or automatic weapon station, or any other equipment)
- Good off-road capability



Main components:

- On-board radiation level meters
- Chemical agent detection system
- Chemical agent identification system
- CWA stand-off-detection system
- On-board meteorological system
- GPS module, data logger
- Biological alarm monitor
- Contaminated area marking system
- LCD display with ATP-45 NBC report preparing function
- Sampling system with remote controlled semi-automatic manipulator
- Dose rate and contamination meter
- Chemical agent monitor
- Bio detection kit



Main features:

- High level of radiation shielding
- 2 stage collective protection system
- Off-road capability
- Passenger area is suitable for decontamination with high pressure technique
- Measuring areas: outside, driver and passenger area
- On board radiation control system
(separate dose measurement for driver, commander and passenger area)
- Automatic calculation of exposure limit
- Alarms in case of high level of external radiation, reaching the exposure limit value, internal contamination...



Main features:

- Crew capacity up to 2+9 person
- Space and fixing points for personal weapons and stuff
- Armoured , NBC filtered, over pressurized, and air conditioned compartment
- All around surveillance camera system
- Blast mitigation seats
- Rotatable roof hatches (preparation of turret or automatic weapon station, or any other equipment)
- Good off-road capability



Main features:

- Crew of 3 (driver plus 2 medical person)
- Convertible stretcher systems both side for one lying patient or for three sitting ones
- Easy to operate/load stretchers for NATO standard litters
- Built in oxygen supply system
- Infusion holders
- Numerous space for medical equipment and materials
- Onboard power supply
- Armoured and NBC filtered, over pressurized compartment
- Good off-road capability



Main features:

- 2+3 crew capacity in armoured compartment
- Space for personal weapons and stuff
- NBC filtered, over pressurized and air-conditioned compartment
- 5 t crane with 3,5 m operational length
- 40 t pulling force hydraulic winch
- 10 t lift & tow equipment
- Storage spaces for tools and rescue devices
- Good off-road capability



Main features:

- 2+3 crew capacity in armoured compartment
- Space for personal weapons and stuff
- NBC filtered, over pressurized and air-conditioned compartment
- 9 t load capacity
- Numerous load fixing points on vehicle platform
- 35 t towing capability
- Good off-road capability



RDO 4336 MPV main features (based on RDO 4332):

Multipurpose armoured base vehicle:

- Armoured double cab and body for 2+4 crew
- Unique quick fixing solution for interchangeable superstructures
- Integrated hydraulic drive system for external equipments
- 38 t towing capacity, 12 t load capacity
- Protection against fragments (gas tanks, UXO)
- Preparation for fire-fighter equipment
- Built-in Ultra High Pressure extinguisher System
- Wide range of interchangeable superstructures (firefighter, technical recovery, ambulance, etc...) and front mounting (snowplough, blade, snowblowers, mulcher, etc...)



VCSF 7000 Firefighter superstructure:
7000 l water tank with fire-fighter pump
Remote controlled front nozzles

Field extinguishing ability
Self-extinguishing capacity
Integrated command elements



GMMF-20 Technical recovery superstructure:
11 t meter hydraulic crane
Lift-tow fork with up to 8 t capacity

5 kVA electric power generator
Hydraulic power rescue set
38 t towing ability



MED superstructure:
Self-supplying electrical supply, air conditioning,
heating systems, variable layout with
two stretchers or six seats, separated medic seat

medical oxygen supply system, wheelchair fixing
possibility, built in infusion holders
cooled/heated storage compartments,
cleanable and disinfectable design



Based on our experiences accumulated during the past years, we believe, that most of the countries would like their vehicle to be at least partly manufactured, assembled or maintained in their countries, which is perfectly understandable of course, since this is how the necessary expertise can be provided, that the vehicle requires during its entire lifetime.



We believe that above the benefits arising from the quality of our vehicle, and the lack of grand political aims and power of our country, it is also very important that we are able to manufacture unique products in small series for our customers, and we are READY FOR THE TECHNOLOGY TRANSFER TOO!



Combining these opportunities,

- we develop a personalised version based on the unique specifications and requirements,
- we prepare the manufacturing documentation and finalize your prototypes,
- we can provide continuous engineering for development of new versions if required.



We are convinced that the completed KOMONDOR vehicle provides sufficient grounds for declare: we are capable of developing Your Light Armoured Vehicle, and putting it into manufacture by deadline.



**Have your own Light Armoured Vehicle,
within short time, for reasonable price!**



RDO 3021



RDO 3021 V2



RDO 3021 HSY



RDO 3021 (add on armoured)



RDO 3021 CBM



RDO 3021



RDO 3021 AIR



RDO 3021 LE



RDO 3022



RDO 3032 REC



RDO 3121



RDO 3121 LE



RDO 4336 MED



RDO 4336 CRF

STEP 1

We develop a personalized version of the product based on Your unique specifications and requirements.

We prepare the manufacturing documentation and finalize the prototypes.

We can produce the zero (null) series in our facilities, during which process we can train Your professionals in the required production procedures.

STEP 2

If the partner prefers to have the product manufactured on their premises, we are ready to provide full technological support for establishing an entire production factory.

Identifying the level of technology transfer:

- parts for local production, from Gamma or from 3rd party producers
- maintenance cababilities
- development cababilities

Checking the partner's existing production capabilities:

- human resources
- factory and machinery

Making recomendations for improvements in:

- human resources
- factory and machinery

Preparation for local production :

- training the selected team of skilled staff during the 0 series production in our factory (real production experience during zero series production)
- supplying the necessary tools, procedures, etc.
- cooperation in QC, and checkings during the machinery and human resurces improvemens

Documentation handing-over:

- handing-over the preliminary assembly/production documentation, supply chain informations.

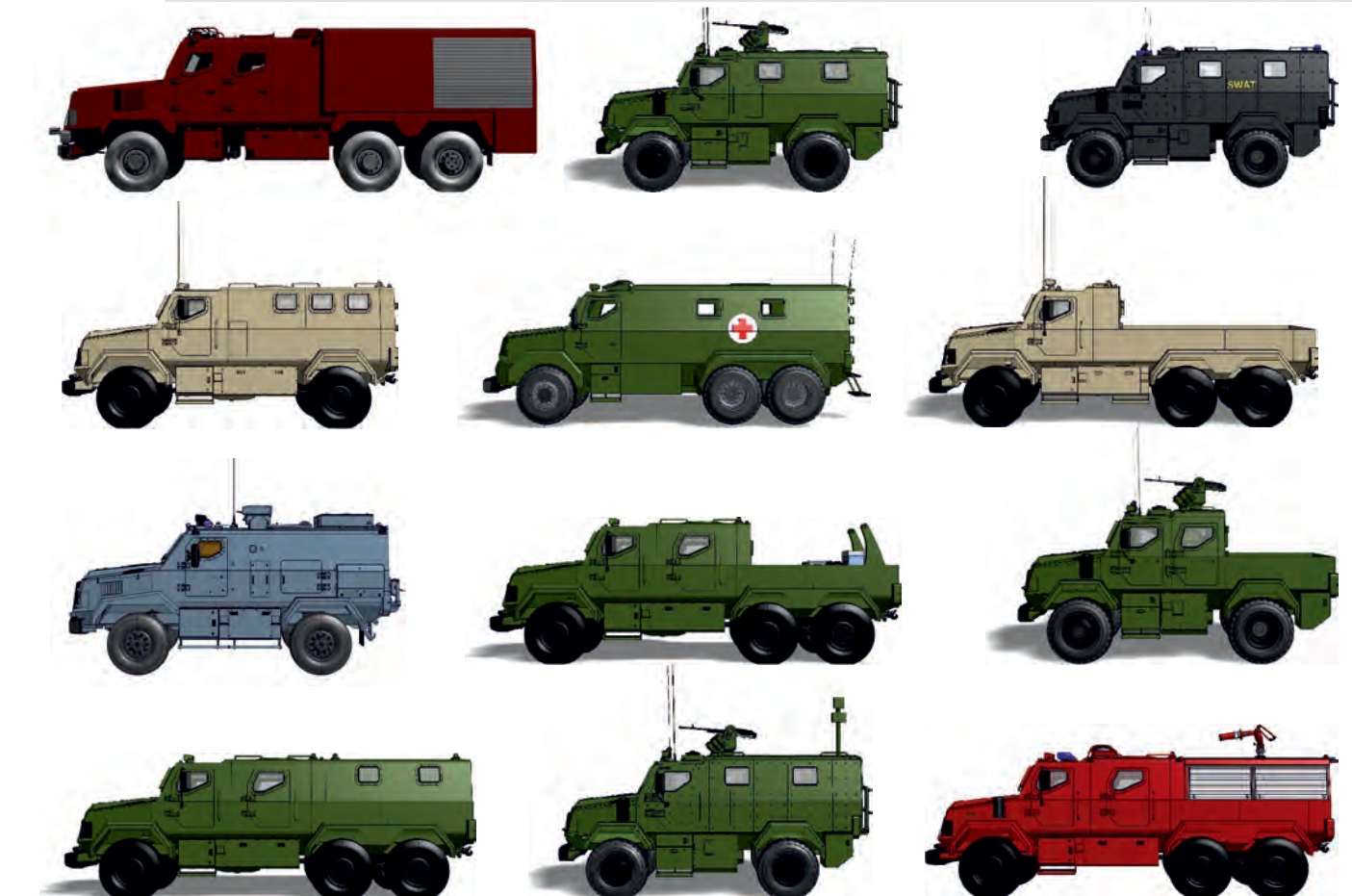
STEP 3

- finalized assembly/production documentation in 2-3 month after the zero series
- we are supervising the first production lot in Your new workshop.
- we provide continuous engineering for improvement Your product.



Technology Transfer Elements Values:

1. Rights (Sales,Assembly,Manufacturing)
2. Documentation (Assembly, Manufacturing, Sourcing, Parts Mfg, Service)
3. Training (Assembly, Manufacturing, Service)
4. Special Production Tools, (Manufacturing Guide Forms (jig), Calibration Tools)
5. Zero Series Product of the localised versions
6. Manufacturing Supervison of Local Production (Upon Request)



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within short time, for reasonable price!**

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