

MPV

Medium Protected Vehicle

Designed to meet the challenges of an uncertain world

IVECO Defence Vehicles has closely researched the demands placed on protected multipurpose vehicles by the wide range of operations which they are required to undertake. Based on the output of this research, and on the company's own extensive experience of the market sector, a programme was initiated to develop an innovative and highly protected Medium Protected Vehicle (MPV).

The new MPV range is available in 4x4 and 6x6 versions with a GVW from 18t to 25t

and was designed to fill a wide variety of roles including:

- Crew carrier
- Command, reconnaissance and liaison vehicle
- Ambulance
- Logistic transport
- Artillery tractor

Meeting these roles effectively was paramount. Accordingly, the design process began by identifying the most demanding military requirements and ensuring

that the specification met these in terms of:

- Crew protection against small arms fire, shell splinters, anti-tank mines and improvised explosive devices (IEDs)
- High mobility on roads and cross country
- Large protected payload volume and high payload
- Transportability
- Towing capacity
- Reliability and maintainability



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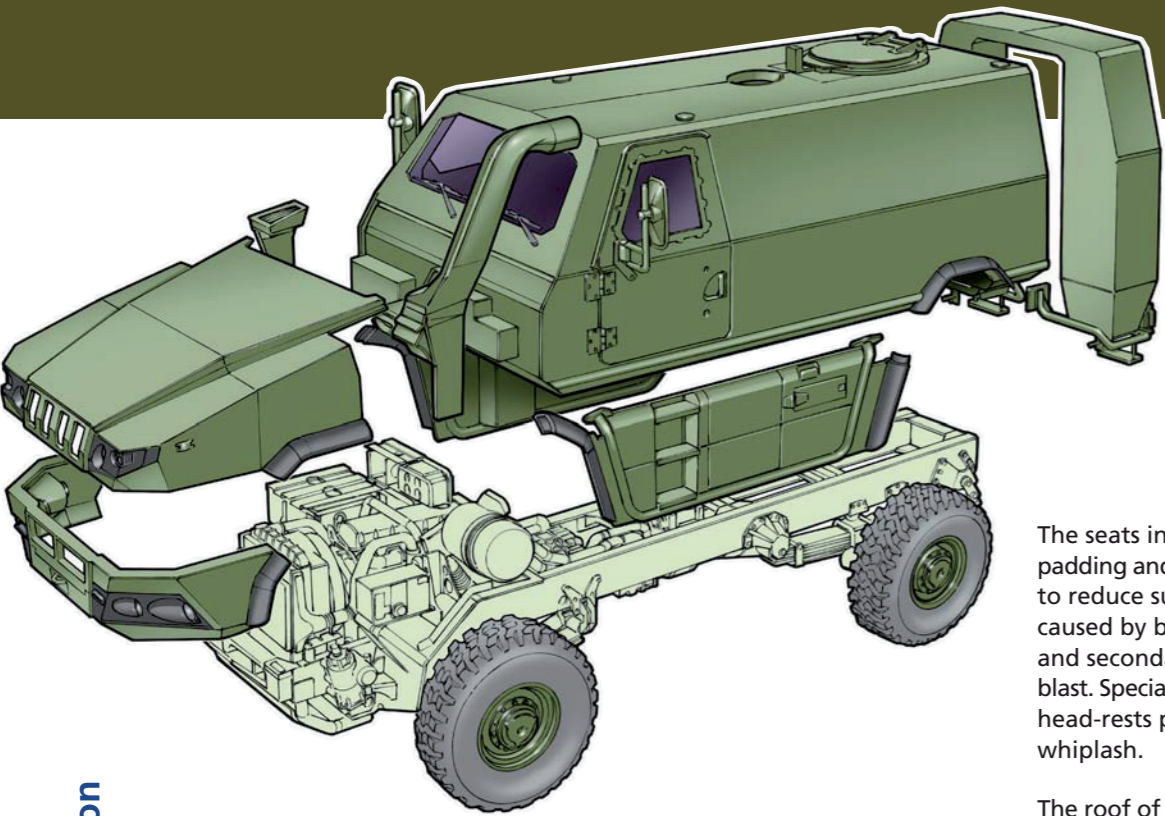
Medium Protected Vehicle



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Mission success is within our range



Crew Protection

Crew protection was accorded particular priority during the design process, selecting the importance of achieving mission success at minimal cost. The base steep armour of the crew cell, produced by KMW, provides a high level of ballistic protection. This can be further enhanced to meet the predicted threat through the use of appliqué protection developed by IBD.

The integrity of the crew cell is maintained through a series of design features. The bonnet is hinged to the chassis rather than the crew cell and the rear cargo compartment is so designed that it will readily blow off, allowing the energy from a mine blast to dissipate. The base steel armour of the crew cell provides a high level of ballistic protection and this can be further enhanced through the use of appliqué protection to meet the predicted threat.

The transparent armour is designed to match the protection provided by the rest of the vehicle providing the overall vehicle with the ability to withstand threats up to STANAG 4569 Level 3.

Protection against mine and IED attack up to STANAG 4569 Level 3 is provided both through the dowsing of the hull, with its large stand-off, underbody deflector plates and blast energy management system, and through a series of design features. Large tyres fitted with run-flat inserts optimise absorption of blast energy, whilst deflector plates lining the wheel arches maximise energy dissipation.

All occupants are provided with specially designed shock dampened seats which are suspended on elastic mounts, avoiding direct transmission of blast shock to the crew.

The seats incorporate moulded padding and five point seat harnesses to reduce sudden body movements caused by both the primary (rising) and secondary (falling) effects of blast. Specially designed wrap-around head-rests provide protection from whiplash.

The roof of the MPV is fitted with a lockable hatch which can be opened from both inside or outside for safety reasons. The Vehicle roof structure can accept a variety of weapons depending on customer requirements, including 7,62mm or 12,7mm machine gun and 40mm grenade launcher. Particular care has been taken to address human factors in the design of the crew cell providing ergonomically sound and comfortable working positions for all occupants, catering for 5th to 9th percentile soldiers. The Vehicle complements this by providing high level of vibration control and shock absorption. The Vehicle's controls are designed to provide the perfect balance of automation and lightness of touch, making the vehicle responsive and easy to handle.



MPV

MULTI PURPOSE VEHICLE

Mobility

The MPV is a highly mobile and agile vehicle which is capable of operating across a wide range of demanding terrain. It is also well adapted to operations in demanding climatic environments, within temperature extremes of -32°C to +49°C including high humidity. The vehicle's particular mobility features include:

- Available in 4x4 and 6x6.
- Permanent all wheel drive.
- ADM (Automatic Drive-Train Management) available as option.
- ABS system designed specifically for off-road conditions.
- Pneumatic braking system, allowing rapid braking even when heavily laden.
- Twelve speed semi-automatic gearbox with two gear transfer-box.

- High approach and departure angles.
- Excellent ground clearance.
- High stability on longitudinal and transverse slopes.
- 14.00R20 tyres, providing a low mean maximum pressure to maximise terrain accessibility
- XML tyre tread, ensuring good traction over soft ground.

In its basic configuration, MPV is capable of fording depths of 0.75 m unprepared by virtue of its waterproof electrical system.

This can be extended to a depth of 1.2 m by adding extensions to the air intake and exhaust.

MPV's weight and size ensure that it is highly transportable:

- By rail transport on standard flatbeds.
- By RO-RO ferry.
- By air: in C130J with preparation and in heavy strategic airlift such as C-5, C-17, A400M.



Maintainability

High reliability, ease of maintenance and low through life costs were key considerations during the design of MPV.

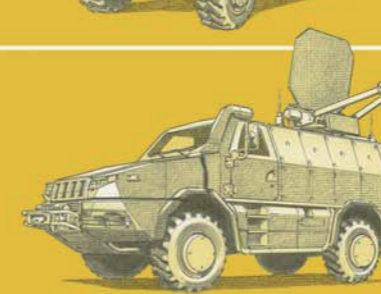
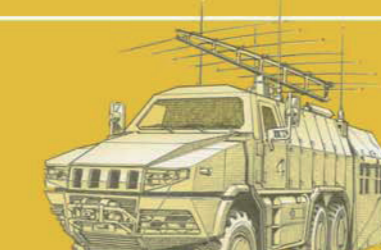
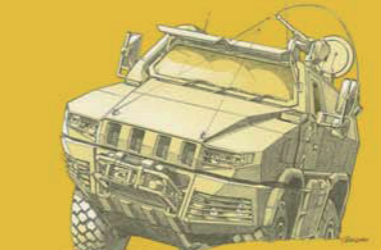
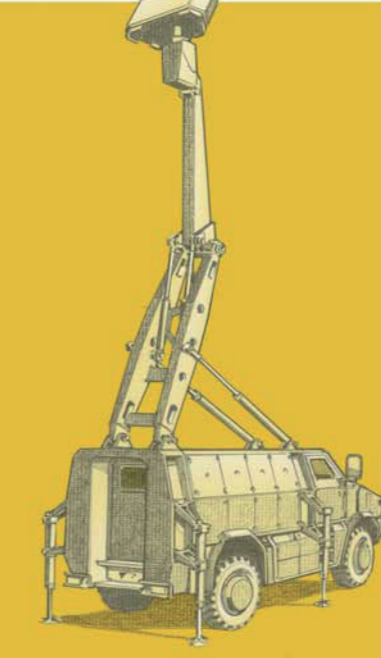
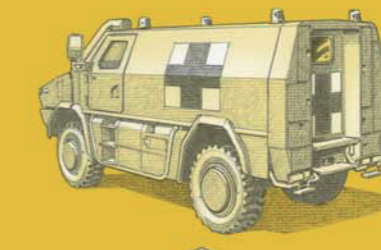
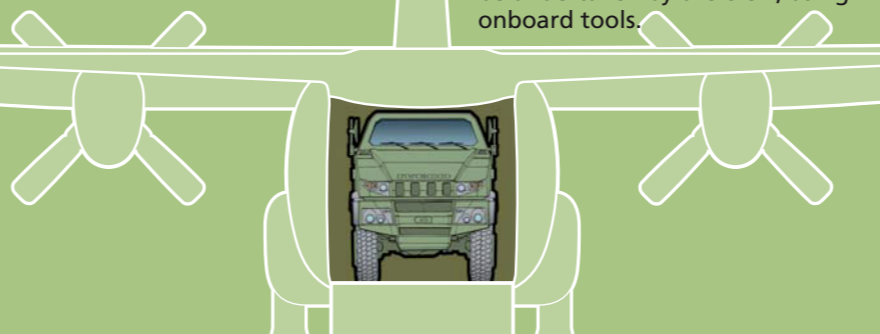
The vehicle benefits particularly from Iveco's engineering experience on its truck range which has allowed incorporation of a number of innovative design features. Built in and external diagnostics allow timely identification of impending malfunctions, allowing preventive maintenance to be undertaken, whilst the facility to collect vehicle data allows effective whole fleet management. The use of COTS main assemblies such as the gearbox and engine ensures that performance and reliability have been proven over many millions of road miles in demanding environmental conditions.

This provides an outstanding level of reliability and consequently excellent fleet availability. The design imperative to minimise running costs has led to a reduction in Level 1 maintenance requirements, with scheduled maintenance intervals being double those for comparable vehicles.

MPV is fitted with a 2nd generation CANBUS which links the electronic control units of the engine, gearbox and ABS.

By interrogating the system with a diagnostic tool, the maintainer can gather diagnostic and prognostic information in real-time, enabling pre-emptive maintenance to be planned.

Ease of maintenance has received a very high priority, with ready access being provided to undertake checks and routine servicing tasks, and maximum use being made of repair by replacement. All Level 1 checks can be carried out without any dismantling of assemblies, or use of special tools, while all Level 1 maintenance can be undertaken by the crew, using onboard tools.



MPV 4x4

MPV 6x6

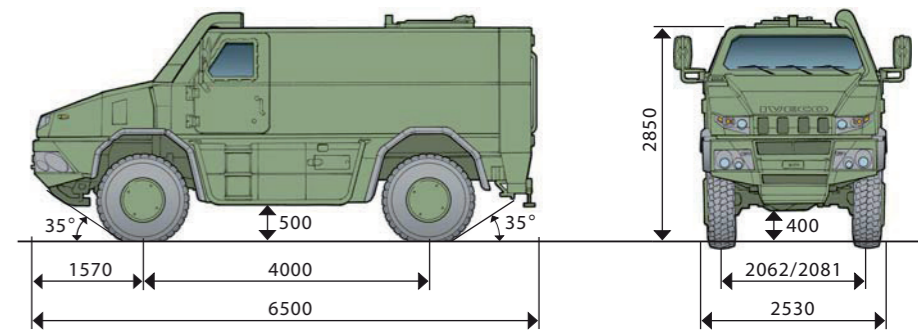
Technical Features

Dimensions			
Wheelbase	mm	4000	3000/1390
Track (front and rear)	mm	2062/2081	2062/2081
Max width	mm	2530	2530
Overall length	mm	6500	7400
Height (cabin top line)	mm	2850	3080
Min. height (under front axle)	mm	400	400
Min. height (undercarriage)	mm	500	500
Front/rear incidence angles		35°/35°	35°/35°

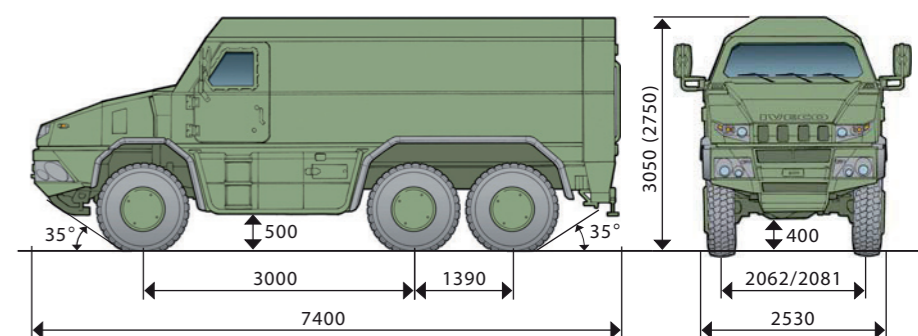
Mass and payload / towing capacity			
Total mass on the ground	kgs	18000	25000
Tare	kgs	15000	20500
Payload	kgs	3000	4500
Gross Combination weight	kgs	40000	40000

Performance			
Max speed	km/h	>90	>90
Max longitudinal slope gradient		>60%	>60%
Max transverse slope gradient		30%	30%
Turning circle (kerb to kerb)	m	17.5	18
Fording depth (without preparation)	mm	750	750
Fording depth (with preparation)	mm	1200	1200
Power/weight ratio	kW/t	15	13.3
		(20hp/t)	(17hp/t)

MPV 4x4



MPV 6x6



The data contained in this brochure is purely indicative and Iveco D.V. reserves the right to modify or to upgrade in accordance with future technical developments without notice.