



PRESS KIT

EUROSATORY 2016



Whatever the mission, wherever, whenever

VOLVO GROUP GOVERNMENTAL SALES

Volvo Group Governmental Sales(VGGS), the Group's defence and security business area, was created in 2012 to coordinate the specific industrial and commercial operations by bringing together the brands and entities of the Group that are active in these particular fields.

To best meet the needs of the Defence and Security forces, while rationalizing costs, VGGS pools the organization of R&D, production, sales and aftermarket, and takes tighter control of its brands and entities, both French (Renault Trucks Defense, Panhard and ACMAT) and international (American: MACK Defense; Australian: VGGS Oceania).

The excellence of our brands is built on a century's experience in the automotive, trucks and armoured sectors, and a tradition of quality relations with the Defence-sector stakeholders in Europe and worldwide. Our brands have constantly adapted and innovated in the face of technological progress and geostrategic upheavals over the past century.

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RENAULT TRUCKS Defense, ACMAT Defense, PANHARD Defense, VOLVO Defense et MACK Defense

- **RENAULT TRUCKS Defense** develops and manufactures a full range of armored, tactical and logistics vehicles. It is a legacy supplier to the French armed forces with almost all the trucks in service and numerous armored vehicles. It supplies the complete 8x8 driveline of the French Army's 630 VBCI infantry fighting vehicles and the special chassis of the Caesar® from Nexter Systems, a 155 mm self-propelled howitzer. RENAULT TRUCKS Defense's customer portfolio also includes more than 65 other countries. 5,000 VAB Mk1 APCs have been sold worldwide so far, while new models such as the SHERPA LIGHT 4x4 tactical vehicle have already secured their first export contracts. RENAULT TRUCKS Defense, one of three participants in the Joint Venture (GME) which was awarded the Scorpion contract by the Minister of Defense, is to participate in the development of the French Army's new generation of front-line vehicles Griffon and Jaguar. RENAULT TRUCKS Defense is in particular responsible for supplying the powertrains for these two vehicles, and for providing the whole supply chain for the spare parts and components of the Scorpion program.
- **ACMAT Defense**, created in 1947, is the manufacturer of the famous VLRA tactical vehicle of which more than 1,200 units are in service in the French Army, with sales also going to many other countries. Located in Saint-Nazaire, ACMAT has dozens of customers for its new range of light tactical and armored vehicles (ALTV, VLRA and BASTION), especially in Africa where their ruggedness and mobility are much valued.
- **PANHARD Defense**, historical provider for the French Army since World War I, a subsidiary of RENAULT TRUCKS Defense since October 2012, is specialized in armored reconnaissance, tactical and liaison vehicles, including amphibious models such as the VBL.
- **VOLVO Defense** provides vehicles and power systems based on the Volvo branded product portfolio, which includes products such as trucks, construction engineering equipment and power systems that can all be specially adapted for customer needs such as high mobility, high availability and protection. VOLVO Defense provides comprehensive integrated logistical support solutions worldwide in order to be a complete supplier of low life cycle cost solutions wherever customers operate.
- **MACK Defense** LLC is a subsidiary of MACK Trucks, Inc. founded in 1900. Mack has always had a strong presence serving armed forces around the world. In WWI and WWII, MACK stood at the forefront of vehicle production and continues to supply trucks both domestically and internationally. In the last few years, MACK has committed additional resources to the defense industry with the creation of a unique division of the company, specifically dedicated to military and government sales, **MACK Defense**, LLC.

Light Tactical & Armored Range

The light tactical and armored range includes light tactical and light armored vehicles from 3 to 5 tons (ALTV), light armored vehicles from 5.5 to 8 tons (DAGGER, VBL), light armored vehicles from 9 to 12 tons (SHERPA light), APC 4x4 from 12 to 15 tons (BASTION). These vehicles can be customized as Defense or Homeland Security versions according to customer need.

■ The light tactical vehicles from 3 to 5 T

More than 1,000 units of the **ALTV** lightweight 4-wheel-drive developed by ACMAT Defense in 2009 have already been sold in a dozen countries. This all-terrain vehicle is designed to provide great tactical mobility with a high maximum speed and exceptional off-road performance. Its reinforced wheelbase supports a heavy payload of up to 1.4 t, one of the highest in this segment. It is equipped with a 190 hp engine enabling it to reach speeds of up to 160 km/h.

The ALTV adapts to a wide range of missions: personnel transport, border surveillance, patrols, ambulance, recovery, armored firing post, cargo carrier, armored van etc. It is available in single and double cab PICKUP, TORPEDO, COMMAND CAR, CHECK-POINT and STATION WAGON versions. In protected version, it can be fitted with ballistic and mine protection.

With its speed and great mobility, the ALTV PICKUP 4 is a true urban intercept and pursuit vehicle. Its excellent obstacle clearance capabilities make this 4x4 highly suited to extremely difficult terrain. Fitted with a 190 hp 4-cylinder engine, it is capable of transporting a 1.3 t payload and carrying up to 10 officers. This Homeland Security version has the following characteristics: flashing light bar, reinforced obstacle bumper, penetration flasher and an audible siren with speaker and amplifier. This vehicle is also equipped with a built-in mission system for reconnaissance, surveillance, and target acquisition.



■ The light armored vehicles from 5,5 to 8 T

DAGGER is a light armoured vehicle (5.5-ton) dedicated to Command and Liaison missions. Its small size and its 4x4 military chassis provide it with a good mobility in built-up areas and a good all-terrain mobility. Its NATO level 2 (ballistic and mines) armoured hull protects a crew of 2 to 4.

The versatile DAGGER is also an excellent homeland security vehicle (Law Enforcement DAGGER) or light armored personnel carrier (APC DAGGER). More than 1,200 DAGGER vehicles are in service with the French army as well as in Europe, South America and Africa.



The DAGGER has a modular internal volume, meaning there is enough room to fit it out in either the transport version or C2 (Command and Control) version. A system of rails fitted to the partitions allows the vehicle's inner layout to be modified and easily secure items of equipment. Different versions are already in use that can be tailored to the specific requirements of specialized units: traffic control units, engineer divers, EW, mine-clearing teams, drone remote-control teams, ambulance vehicles, etc.

The DAGGER has an outstanding mobility, 4x4 military chassis has high approach and departure angles. This 5 t class protected vehicle's compact size makes it more maneuverable than its competitors in built-up areas. It can take on challenges in conflict areas and gives ready access to narrow lanes. Thanks to its powerful engine and automatic gearbox, it can also be used as an ATV (All-Terrain Vehicle) with good crossing capabilities. Tire inflation control from inside the cabin gives added versatility when moving onto soft terrain.

Protection is according to STANAG 4569.



VBL is a 4.3 t light armoured vehicle capable of carrying payloads up to one tonne to perform reconnaissance, intelligence-gathering, command, internal security and combat missions within anti-tank and cavalry units. Its compact, stealthy design gives it unrivalled projection capacities: amphibious, air transport and air drop. Its excellent mobility, due to its independent suspension system, makes it an agile vehicle in all theatres: desert and mountainous terrain, urban and tropical zones, etc.



This successor to the VBL MK1, which was a worldwide success with more than 2,300 units sold, is an updated version (with its new engine, new gearbox and central tyre inflation system) which offers reinforced mobility and survivability to confront today's threats. Engaged on all the theatres of operation of the French Army, the VBL is combat proven.

The vehicle is equipped with a 130 hp engine.



■ **The light armored tactical vehicles from 9 to 12 T**

Sherpa Light offers a full family of light tactical vehicles with a common 4x4 chassis specifically designed for military requirements. Its high strategic and tactical mobility, its heavy payload capability and its good protection have convinced France, NATO and several countries, in Europe, in the Middle-East, and in Asia.



The Sherpa Light family includes several versions meeting the different aspects of:

- **Military:**
Reconnaissance, patrol, C2 and liaison, Special Forces, weapon system carriers, personnel carrier, frontline logistics and medical evacuation.
- **Homeland security forces:**
Police, guards, Special Forces, counter-terrorism, border control.

Sherpa light has been specially designed to provide excellent payload capacity and protection, while maintaining tactical and strategic mobility. The full time 4X4 chassis has a high ground clearance, and high approach and departure angles. Its engine up to 265 hp is coupled with an automatic gearbox.

Sherpa light is able to carry many different systems: machine guns and guns up to 20 mm, missile-launchers, mortars, 105 mm lowrecoil guns, sensors, tactical assault ladder...

It is equipped with Battlenet Inside™ open electronic architecture to plug and play any system.



The SHERPA LIGHT family consists of different versions answering to all the needs of military and internal security forces. They share the same driveline to ease maintenance and decrease lifecycle costs but are available with different wheelbases, cabs, protection levels, weapon systems and equipment to respond to customers' specific needs.

- The SHERPA LIGHT SCOUT available in armored variants is suited for tactical missions such as scouting, patrol, convoy escort and command liaison.
- The SHERPA LIGHT STATION WAGON is fully armored and ideally suited for various tactical missions such as protected patrol and internal security, carrying weapon or mission systems for short range anti-aircraft defense. It is able to transport up to 5 soldiers and/or any weapon or mission system.
- The SHERPA LIGHT SPECIAL FORCES is suited for long range off-road patrols. Its huge payload gives it a long operating range (ammunition, fuel, spare parts, military survival kit). This vehicle is particularly well suited to the specific needs of Special Forces: five seats, open top and folding windscreen, mounts for weapons and special equipment.
- The SHERPA LIGHT CARRIER is dedicated to logistic missions in difficult terrains. It has a 2 soldiers cab and the capacity to transport up to 5 t of payload including a 10 feet shelter. Both the SCOUT and the CARRIER have been ordered by NATO while RENAULT TRUCKS Defense also secured an order for the CARRIER to transport the French army "Syracuse III" satellite communications shelters on the battlefield.



- The SHERPA LIGHT APC (Armored Personnel Carrier) is a 3-door protected troop transport version for up to 10 soldiers with their equipment. It is also able to accommodate any weapon system thanks to a large internal volume.
- For security and public order applications, the SHERPA LIGHT APC can be used to project a team of 10 officers into a hostile situation or establish an armored mobile command center. The SHERPA LIGHT APC can be fitted with an assault ladder designed to support a special team during counter-terrorist, hostage rescue or police missions.
- The SHERPA LIGHT APC XL is used to project a team of 10 officers into a hostile situation or establish an armored mobile command center. It is also able to receive any mission or weapon system thanks to its large internal volume. Compared with the SHERPA LIGHT APC, it is an extended version and has four lateral doors.



■ **The light Armored APC vehicles from 12 to 15 T**

Bastion is a modular line of armored vehicles of 12 T. Cross-country mobility is provided by the chassis of the VLRA 4x4 tactical vehicle and offers good tactical mobility, as well as great ruggedness and ease of maintenance. The Bastion armored hull, integrated on one of the two chassis, offers a large internal volume and excellent protection according STANAG 4569. It is available in APC troop transport version, open-body PATSAS version for Special Forces, or logistics version with rear flatbed. The APC can also be fitted out in ambulance, cargo and command post versions.

Numerous countries in Africa and Europe rely on the Bastion APC and PATSAS for peace enforcement, peacekeeping, reconnaissance and combat missions. It is used by several Special Forces units.



Bastion HM is a modular line of armored vehicles of 14,5 T.

It is a troop transport vehicle with a high level of off-road mobility. This vehicle offers an excellent weight/power ratio. It is provided with the BASTION's hull, an engine up to 340 hp, and independent suspension which increases both its payload as well as its mobility performance. The BASTION HM provides high level of protection according to STANAG 4569.



■ The light tactical and logistics vehicles

VLRA is a family of light tactical vehicles sharing the same 4x4 chassis specifically designed for military needs. Successor to VLRA 1, 12,000 of which have been sold worldwide, it retains the latter's ruggedness, no-electronics versions, range and low gooseneck chassis.

The VLRA family includes a wide range of 4x4 (four different wheel bases) and 6x6 logistics and personnel carriers. A Special Forces vehicles VLRA Commando also exists. VLRA is already in service in several African and European countries.



Medium and heavy tactical vehicles

The medium and heavy tactical range includes tactical trucks 12 T (SHERPA medium), APC 6x6 (HIGUARD), IFV 6X6 (VAB MK 3, LAKOTA) and IFV 8X8 for which RENAULT TRUCKS Defense provides complete driveline.

■ The medium tactical and logistics vehicles

Sherpa Medium is a range of 6x6 tactical trucks with a payload up to 12 T offering exceptional off-road capability thanks to a specific military chassis (MOTS).

Sherpa Medium can be airlifted by C-130. It is particularly suitable for frontline logistics (ammunitions, fuel, etc) on the battlefield.

Around 250 Sherpa Medium vehicles are in daily operational use with the French armed forces as logistics carriers or CAESAR® (155 mm) artillery system carriers. The Sherpa Medium chassis has also been selected for CAESAR® and HIGUARD systems in service with several countries in Asia and the Middle East.



■ The APC 6x6

HIGUARD is a medium armored vehicle based on a Sherpa Medium 6x6 truck chassis, on which an armored hull is integrated. This chassis provides Higuard with high all-terrain mobility. A high level of ballistic, mine, and IED (Improvised Explosive Device) protection according to STANAG 4569 is provided by the armoured hull.

Thus, Higuard is an armored personnel carrier perfectly suited for military operations in asymmetrical warfare. Homeland security forces from several Middle-East and Asia countries are already equipped with it.

The Higuard is equipped with an engine 320-340 hp coupled with a mechanical or automatic transmission. 15-m³ internal volume is enabling to comfortably carry up to 2 + 10 soldiers.

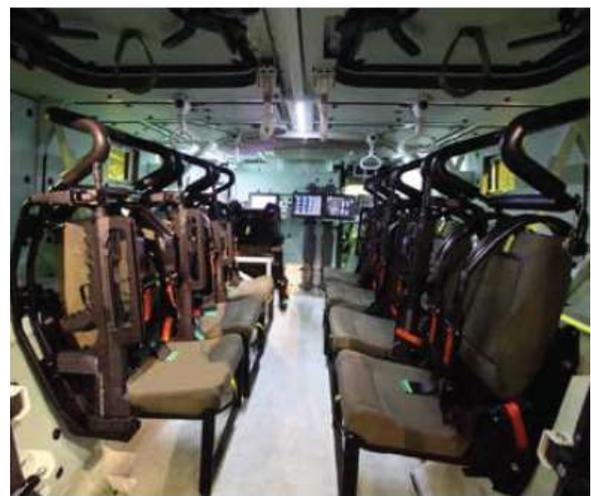


■ 6x6 Infantry fighting vehicles

VAB MARK 3 is a new family of 6x6 medium weight armoured vehicles offering very high level performance in terms of mobility, protection and payload. VAB MARK 3 benefits from 30 years experience of VAB legacy:

- The vehicle, driven from behind the windshield, provides on-board commander and driver with excellent observation capacity
- Its compact profile facilitates optimal stealth in urban and mountainous environment
- Its platform, equipped with Battlenet Inside, can carry medium to large calibre weapons systems
- Low procurement cost and access to the Volvo / Renault Trucks maintenance network across the entire world
- Performance close to an 8x8 at an economic cost

The VAB MARK 3 is equipped with a driveline 6x6 with independent suspension and a powerful engine (340 hp) coupled to automatic transmission.



Its monocoque hull is available with numerous versions:

- Troop transport: 2 (driver, gunner) + 10 soldiers; weapon system: small caliber manned or remotely operated (12.7 mm);
- Infantry Fighting Vehicle (IFV): 2 + 7 soldiers; weapon system: 1 remotely operated turret (20 to 30 mm);
- Reconnaissance and Fire support vehicle : 2+4 soldiers, equipped with a 90 mm turret;
- And also Intelligence/Surveillance/Targeting (ISTAR), 120 mm Mortar Carrier, Command Post, Ambulance, etc.



Mack Defense provides the **LAKOTA**, an armored medium vehicle 6x6 offering high level performance in terms of mobility, protection and payload. Equipped with a 370 hp engine coupled with an automatic transmission, the LAKOTA is a multirole vehicle and can receive a large equipment range,



■ Infantry fighting vehicle 8x8

RENAULT TRUCKS Defense provides the **driveline 8x8** of the VBCI infantry combat vehicle up to 32 T.

The driveline 8X8 is equipped with a powerful engine 600 hp coupled with an automatic transmission and independent suspensions.

Our families of trucks fulfill all logistics missions including fuel supply, heavy logistical transport (ammunition, water, spare parts, etc.), weapon or command system, personnel transport and breakdown assistance. VGGs has also developed militarized variants of these trucks (M-COTS), in order to meet more specific military needs: all-wheel-drive, fording, tactical air transport, EMC, armored cab, etc.

■ K range

The K constitutes an entire range of heavy 19 to 50 T tactical and logistical militarized trucks. There are both a carrier and tractor version, varying from 4x2 to 8X4 all-terrain, or from 4X4 to 6X6 full off-road. The K, derived from Renault Trucks' commercial product range, offers interesting acquisition and operational costs for logistics missions (such as transportation of personnel, cargo, tanks or shelters, mechanical support, engineering unit, etc..) or tactical missions (artillery tractor, heavy vehicle recovery, weapon systems, radars, battle tank carrier, etc..) to military users, security forces and international organizations.



■ Kerax 8x8

KERAX 8x8 is a logistic vehicle capable of exceptional all-terrain performance, It offers military, civil security and international organizations low procurement and running costs across a wide variety of missions such as personnel transport, cargo, recovery, tanker or shelter...

For specific theatres of operation, KERAX 8x8 may be fitted with a cab highly protected against ballistic threats, mines and IED.

The French armed forces and others across the world already entrust the KERAX to missions in national territory and abroad.



■ D range

The D is a logistics truck with a loading capacity from 8 to 18 T receiving a large equipment range. Derived from Renault Trucks' commercial product range, the D offers interesting acquisition and operational costs for logistics missions to military users, security forces and international organizations.

The D is available in 4X2 and 4x4 versions.



■ FL / FH / FMX range

VOLVO Defense supplies VOLVO branded vehicles to defense authorities, organizations, and companies. The VOLVO Defense portfolio includes specially adapted trucks and construction and engineering equipment. Being part of the VOLVO Group, and thus utilizing the driveline and chassis components already developed for civilian vehicles, VOLVO Defense can focus on dedicated equipment such as ballistic and mine protection. In its quest to become a leading supplier of vehicles to state authorities, VOLVO Defense not only provides the vehicles but also ensures back-up and support through VOLVO ILS to afford military users the ultimate in comfort through a highly efficient global service network.



■ Granite

The Mack® Granite® Heavy Tractor is a rugged and reliable truck. It features a fuel-efficient, 13-liter Mack MP8 engine that delivers plenty of horsepower (440 HP), plus great low-end torque (up to 1,660 lb.-ft) to provide you with the muscle and the endurance needed to support your operations. It is built on the proven Mack Cornerstone™ chassis that delivers rock-solid performance as it provides a constant frame rail height and sits high off the ground for maximum ground clearance over rough terrain.



■ Protected internal security vehicles

MIDS – a Homeland security armoured vehicle – is specially designed for the most demanding missions: law Enforcement, rapid intervention, counterterrorism, transport of prisoners, command post...

Its chassis provides it with good mobility inside and outside urban areas, while its large volume armored hull protects the crew against ballistic threats, grenades and even Molotov cocktails.



Integrated systems and Customer Support

Through many partnerships Volvo Group Governmental sales has developed an integrated command and information, crisis management, logistics systems and provides an integrated service offer that encapsulates all aspects of customer support.

■ Integrated systems

VGGS develops and integrates specially **adapted protection solutions**, for guaranteed performance, safety-in-use and cost control. It finances the research, development and validation of ballistic and anti-mine protection solutions. The Group can integrate the best solutions from its expert suppliers. It has the simulation tools required for defining its own protection solutions (armoured hull structures) according to NATO standards, and caters to the needs of the Security industry (standard EN 1063/1522, NIJ, etc.). Against mines and IEDs, VGGS develops and integrates innovative solutions for guaranteeing crew survival against impacts and effects of blasts. The Group is also capable of achieving all tests for qualifying the customer's desired protection levels on different sites in France and abroad.

BATTLENET INSIDE (BNI) is an innovative electronic architecture, based on open, standardised and proven solutions, for a reduced cost of acquisition and the possibility of modular upgrading. BNI enables vehicle networking in the form of several integration packs (standard, medium or advanced). The standard pack integrates four broad functions for the vehicle commander: perimeter vision, cartography, documentation and mission status. This pack is available as standard on VAB MARK3 and BASTION HM. To facilitate communication inside the vehicle, «medium» and «advanced» packs enable instant sharing of the tactical situation with the entire crew. The operational advantages of this architecture are threefold. First, it improves

crew efficiency via the networking of all on-board equipment and the power management systems. Also, the multiplatform capability, via the interconnection of all the battlefield platforms, enables sharing of the tactical situation and the management of collaborative deployments. Lastly, BNI offers enhanced modularity and scalability thanks to the plug-and-play possibilities for any type of weapon system, communication system or protection system.

In its product range, VGGS offers **remote control weapon systems**. Legacy of the WASP from Panhard General Defense, this turret is the development of small caliber in the remote control weapon systems designed to equip the vehicles of the program, with extremely demanding specifications and performances.

■ Customer support

The integrated service offer encapsulates all aspects of customer support: vehicle in-service support, life cycle support, retrofitting, fleet management.

Vehicle In-Service Support is built upon seven pillars incorporating service offers or processes whose objective is to ensure the operational technical availability of equipment.

- Technical management and information management include a range of services: management of applied and applicable configurations; management of reference standards; analysis of feedback; management of obsolescence; and the management of technical issues.
- Logistics, for the needs of equipment maintenance, involves different types of services. The VGGs Customer Support Department is organised as a supply chain incorporating all logistics specialities and drawing on the corporate weight of the Volvo group and its worldwide network of distributors. VGGs delivers spare parts to the point of assembly, taking account of specific military considerations (management and constitution of overseas engagement kits, NATO codification, etc.).
- Maintenance: the core business of in-service support. VGGs offers a solution that covers all needs and technical levels of intervention: in-service maintenance of equipment within the global network of the Volvo Group or by our teams of mobile maintenance engineers, flexible fixed rates for retrofitting of components or vehicles on our sites or on customer premises (tools, processes and competences).
- Fleet management enables our customers to focus their resources on their core business. This service offering includes maximising the potential of the managed fleet, while guaranteeing technical availability in phase with the operational needs of our customers.
- Coordination and planning make it possible to anticipate needs and organise activities at best cost. The fruit of close collaboration with our military customers, this service offering, divided up into key processes, aims at developing an integrated supply chain and shared coordination of procurement and maintenance programmes.
- The contractual basis offers a flexible and secure legal framework, integrating performance and result objectives.
- Human and Financial resources: the keystone of vehicle in-service support. Our service offering comprises complete or modular training solutions; gateway solutions between the VGGs organizations and our customers, in the form of work-study contracts for ramping up the skills of military or security personnel; financing offers; or the possibility of hiring facilities, equipment or full mobile workshops.

Integrated Logistics Support (ILS) enables optimization of the Support System, well upstream and from as early as the vehicle design phase. Customers win out in two ways: better technical in-service availability of equipment, and globally reduced running costs.

ILS studies are involved in the various design stages: on 3D CAD models with the implementation of maintenance concepts for optimizing equipment maintainability; and through Logistics Support Analysis (LSA) for ensuring consistency of the support system as a whole (technical documentation, spare parts documentation, spare parts, tooling, etc.).

In the framework of the Higuard Singapore contract, Renault Trucks Defense conducted intensive ILS studies in order to meet the customer's requirements. Equipment that ships advanced technology can therefore be supported by a modern, high-performance support system, to guarantee sustained customer satisfaction.

Depending on the needs of its customers, VGGS designs and plans **training solutions** out of the catalogue or on a customized basis, aimed at initial trainers or end-users and including familiarization with the vehicles, driver training whatever the terrain, and equipment maintenance, from everyday servicing to component repair.

This training is dispensed locally with the customer or on VGGS' industrial sites. In addition to field training, VGGS designs and supplies remote training and assessment mechanisms for PC and tablet. Through its specialized partners, VGGS proposes technical (driving, maintenance, firing) and tactical (mission management) training simulators.