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I. Summary

I.1 Introduction

The purpose of this report is to assess current trends and future requirements in the combat armoured and mine protected vehicle market from 2011 through to 2021. Particular focus has been made on the following areas:

- Assess the current armoured and MRAP vehicle market.
- Identify the main manufacturers and their products as well as significant sub-contractors in the supply chain.
- Assess main programmes.
- Provide a detailed overview of current and future opportunities within the armoured and MRAP vehicle market.

This market report covers the following types of armoured vehicles:

- Main battle tanks.
- Infantry fighting vehicles.
- Armoured personnel carriers.
- MRAPs.
- All-terrain vehicles.
- Light armoured patrol vehicles.

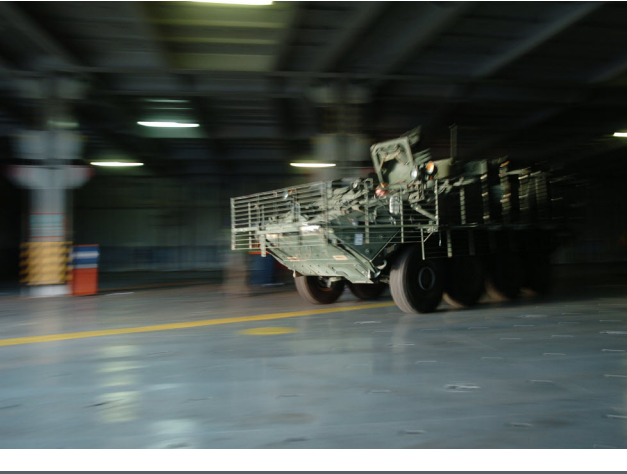
Light unprotected vehicles are omitted from the analysis and research contained within this report, as are most armoured support vehicles – that includes bridge layers and armoured recovery vehicles – self-propelled artillery and trucks.

The pressure on US and Western defence spending has forced armoured vehicle programmes to be cancelled, delayed or reduced. Yet, there remains a high demand for armoured vehicles with many current platforms reaching the end of their service life. It can be estimated that major programmes and requirements currently in place and planned in the next decade or so are worth in excess of US\$150 billion.

Some US\$4.1 billion was spent alone in 2010 on the procurement of new vehicles, driven by demand for Mine Resistant Ambush Protected (MRAP) vehicles for use in Afghanistan. Around US\$4.0 billion worth of contracts were signed covering the upgrade of existing in-service vehicles, making it a particularly lucrative market in these times of tightened defence spending. The US remains the biggest spender investing in the procurement of new vehicles and upgrades.

There is a growing trend where new vehicles are purchased these are off-the-shelf platforms modified to national requirements and perhaps domestically assembled. The US continues to buck this trend, although where new programmes are being pursued, foreign manufacturers are joining forces with North American companies to bid for tenders. This is mostly due to barriers for entry into the US armoured vehicle market for non-American companies, namely a preference for buying American products. Sub-contracting opportunities do, however, exist.

Other countries like India, Turkey and South Korea are pursuing indigenous programmes to improve national industrial capabilities. Some major armoured vehicle producing countries



like France and Germany are continuing to develop and order domestically-design platforms, despite budgetary pressures to buy off-the-shelf, thereby bypassing expensive research and development funding.

The counter-insurgencies in Afghanistan and Iraq have had a significant impact on the armoured vehicle market in recent years with contracts not just awarded for MRAPs, but enhanced armour protection, Improvised Explosive Device (IED) countermeasures, sensors and improved weapon systems. This remains an important area at the moment in the US and European armoured vehicle market, albeit until forces begin to be withdrawn from Afghanistan.

1.2 Methodology

Information contained within this report has primarily been researched mostly using secondary sources, such as published contract awards. Forecasts are provided for annual production in terms of the number of units produced and the estimated value (of unit price). This was found to be the most useful way of assessing the value of the market in each major country with its own armoured vehicle industrial base to manufacture its own orders.

Annual funding is not provided, other than for the United States drawing on fiscal year (FY) budget requests, as this method was felt to have no relevance to providing an analysis of the armoured vehicle industry. In all cases, the financial data provides an analysis purely based on the unit cost and ignores other costs like support and testing. In some cases, unit costs may not even include extras like added armour protection or weapon systems beyond what is offered on the baseline version(s).

Where there are vehicles sold to countries without manufacturing capabilities or a limited production run perhaps through domestic assembly for a single contract, an estimation of the value of the contract is provided, or the exact cost if a contract has been signed, plus expected delivery times and any other important information detailed within the text. Estimations stay close to official forecasts on future programmes, where these have publicly been announced.

All data is provided in US dollars in the tables with other currencies also included within the text. Table I on pages 11 to 14 provides an overview of major programmes, requirements and orders covered through in the rest of the publication.

The market report does not include a detailed analysis of several countries, which were found to be difficult to fully assess during the course of research due to sometimes sketchy and contradictory information in regards to ongoing programmes.

China is one country not discussed at any depth, although there is a brief analysis on page 73 on the country's activities on the armoured vehicle export market in relation to Russia.

This report does not additionally cover some significant market areas for export opportunities, such as Saudi Arabia and Iraq, with majority of focus on countries who have their own capability to produce armoured vehicles. This is because requirements are largely being met by specified products from the US through the Foreign Military Sale (FMS) process. Sometimes no contract is publicly announced following the FMS request with either new or refurbished equipment is being provided.

Major FMS requests in 2011, for example, saw Saudi Arabia requesting a possible sale of 73 LAV wheeled vehicles worth up to US\$263 million (June 2011), while Bahrain requested 44 M1152A1B2 High Mobility Multi-Purpose Wheeled Vehicles (HMMWVs), missiles and associated support for US\$53 million (September 2011). Meanwhile, Iraq requested the supply of 440 refurbished surplus US Army M113A2s worth up to US\$131 million (September 2010).

Afghanistan has additionally been a significant recipient of armoured vehicles via the FMS process. In August 2010, for example, the US announced a contract worth US\$619 million for the supply of 2,526 M1152A1 HMMWVs and B2 up-armouring kits for the Afghan National Army (ANA) and police force. The first contract for 808 vehicles was awarded in July 2011 worth US\$195 million.

Table 1: Major planned armoured vehicle programmes, procurement and requirements

Country	Requirement/order	Remarks
Australia	Land 400 Land Combat Vehicle Systems (LCVS) IFV	1,100 required at cost US\$11.5 to US\$15.3 billion with delivery in 2021–2032.
	Land 116 Phase 3 Project	A total of 838 Thales Australia Bushmasters have been ordered at a cost of US\$968 million with deliveries in 2007–2012.
	M113 AS4 upgrade	431 vehicles being upgraded in 2007–2012 at cost of US\$922 million.
	Protected Mobility Vehicle - Light (PMV-L)	1,300 vehicles required at cost of US\$1.1 billion. Deliveries possibly in 2015–2017.
Brazil	XXXXXXX APC	XXXX vehicles ordered in XXXX at a cost of up to US\$XX billion with deliveries expected in XXXX–XXXX.
	XXXX upgrade	Up to XXX vehicles expected to be upgraded in about XXXX–XXXX at a cost of US\$XX+ million.
	Light armoured vehicle	XXX to XXX vehicles required at an estimated cost of US\$XXX million with deliveries in XXXX–XXXX.
Canada	Xxxxx XXXxxx XXXxxxx (XXX) IFV	XXX (XX optional) vehicles required at cost of US\$XX billion with deliveries in XXXX–XXXX.
	XXXXXXXX XXXxxxxx XXXxxx XXXxxxx (XXXX)	XXX (XXX optional) required at cost of US\$XX billion with deliveries XXXX–XXXX.
	XXX XXX upgrade	XXX vehicles (plus XX optional) to be upgraded at cost of US\$XX billion in XXXX–XXXX.
France	XXXX armoured reconnaissance vehicle	XXX vehicles required at minimum cost of US\$XX billion with estimated deliveries in XXXX through to the XXXXs.
	VBCI APC	630 vehicles on order at cost of US\$4.06 billion with deliveries in 2008–2015.
	XXXX multi-role APC	XXXX vehicles required at estimated cost of US\$XX+ billion. Estimated deliveries in XXXX–XXXXs.
	PVP 4x4 patrol vehicle	933 (1,233 vehicles planned by 2015) at a cost of US\$210 million to US\$310.1 million. Contracts have been awarded to Panhard since 2004 with deliveries in 2008–2012.
	VHM all-terrain vehicle	53 BvS10 Viking Mk IIs ordered in 2009 with 73 more vehicles required at cost of about US\$31 million. Deliveries through to 2014.

It is also planned that the Leclerc will eventually undergo a mid-life upgrade (MLU) as part of Scorpion. Actual production of the 54-tonne Leclerc was completed by Nexter Systems in 2007 following the delivery in of the final vehicle to the French Army. A total of 406 Leclercs and 20 ARV variants were supplied to the French Army. The fleet now comprising some 254 vehicles.

The Leclerc's only export customer was the UAE. The country ordered 388 MBTs and 46 ARV versions in 1993 with deliveries from 1994. The UAE's Leclercs underwent a US\$4.0 million upgrade in 2003–2004, while deliveries of the ARVs continued until 2008.

Nexter signed a number of deals in early 2011 with UAE companies to supply ammunition French-sourced weapons operated by the UAE armed forces. The agreements include up-armouring of the UAE's Leclerc fleet with the AZUR (Actions en Zone URbaine) modular protection kit. France is looking to sell some 40 secondhand Leclercs withdrawn from the French Army's frontline fleet.

2.26 French vehicle upgrades and MRAPs for Afghanistan

France's involvement in Afghanistan has seen the French MoD procurement agency, the General Delegation for Armament (Délégation Générale pour l'Armement – DGA) order equipment through UORs, such as IED jammers, armour protection and secure radio systems.

Renault Trucks Défense was awarded €40 million (US\$58 million) contracts in 2008 and 2009 to upgrade 80 13.8-tonne VAB (Véhicules de l'Avant Blindé) 4x4 APCs with a new Kongsberg Protech Systems Protector M151 12.7 mm RWS and additional armour protection.

Deliveries of the upgraded models, known as the VAB TOP (VAB équipés de tourelleaux téléopérés – or armoured vehicle equipped with remote-operated turret) were undertaken in 2009. Renault Trucks Défense was also awarded further contracts in 2010 and 2011 worth €80 million (US\$110 million) to enhance armour protection on 120 VABs.

Some €310 million (US\$432 million) was allocated in 2009 to upgrade 256 French Army AMX-10RC/VB2L armoured reconnaissance vehicles. In service since the early 1980s, the initial contract the upgrade was awarded in 2000. The upgrade included the addition of new suspension control systems and automatic transmission, SIT VI, the GALIX self-defence system, LIRE 30 infrared decoy system, EADS Defence Electronics Eirel infrared jammer, new thermal imagers, radio systems and enhanced armour protection. The upgrades will keep the vehicle in service until 2020–2025.

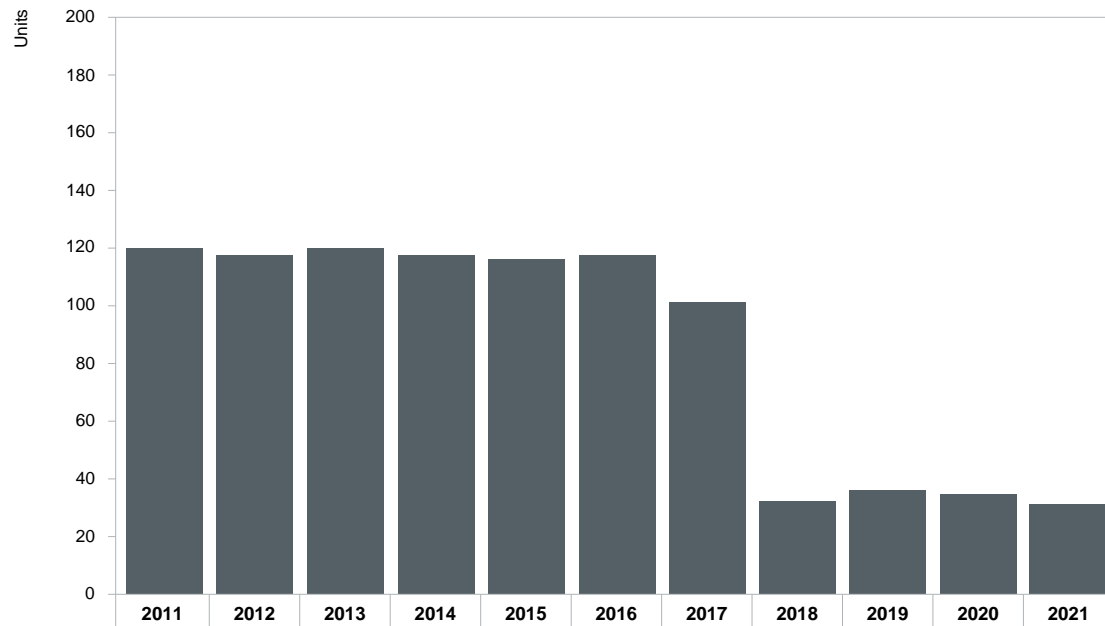
France has deployed protected BAE Systems Hägglunds BV206S All-Terrain Vehicles (ATVs) in Afghanistan – known as the VBHM (Véhicules Blindés à Haute Mobilité) in French service.

In December 2009, BAE Systems Hägglunds was awarded a contract worth about €22 million (US\$31 million) to supply 53 BvS10 Viking Mk11s from 2010 to meet the French Army's VHM (Véhicule à Haute Mobilité) requirement. A total of 129 vehicles are required costing €220 million (US\$295 million).

Initial deliveries will provide pre-production models for testing with full deliveries due to take place in 2011–2014. Panhard General Defense and EADS will be involved in integration and providing systems.

Figure 8

Japanese armoured vehicle production forecast 2011–2021



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Type 10 MBT											
Quantity	13	13	13	13	13	15	14	20	20	18	18
Value (US\$M)	141.0	141.0	141.0	141.0	141.0	163.0	152.0	214.0	214.0	193.0	193.0
Type 96											
Quantity	17	11	12	15	12	12	18	11	15	16	12
Value (US\$M)	23.8	15.4	16.8	21.0	16.7	16.7	18.0	15.3	20.8	22.2	16.6
Light Armoured Vehicle											
Quantity	90	94	95	90	92	91	68	-	-	-	-
Value (US\$M)	30.7	32.0	32.4	30.6	31.3	31.0	23.1	-	-	-	-
Total quantity											
	120	118	120	118	117	118	100	31	35	34	30
Total value											
	195.5	188.4	190.2	192.6	189.0	210.7	193.1	229.3	234.8	215.2	209.6