

THE CONCISE GLOBAL INDUSTRY GUIDE

ARMoured VEHICLES HANDBOOK



ISSUE 12

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25-120 mm



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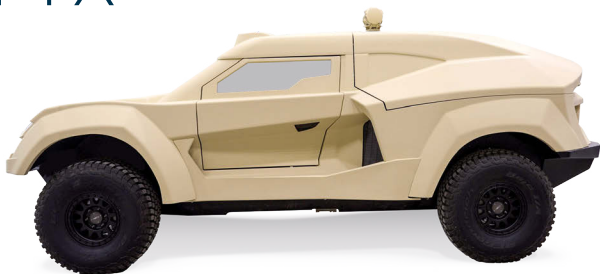


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COVER: The FNSS PARS III 8x8 has been developed with special emphasis on mobility, protection, payload and growth potential. (Photo: FNSS) **ABOVE:** Royal Welsh soldiers dismount from their Warrior IFV and take up their firing positions during Exercise *Gothic Dragon* in Germany. (Photo: British Army)

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Welcome

To counter current and future threats, armies have been adding new capabilities to armoured vehicles. Numerous improvements in terms of mobility, lethality, protection and situational awareness were announced worldwide in the last 12 months.

During this period, armies have also paved the way for the use of autonomous capabilities and AI in combat platforms. The US Army, for instance, has been making progress with the Optionally Manned Fighting Vehicle (OMFV) to replace the Bradley Fighting Vehicle. In 2021, the army awarded contracts worth \$299.4 million to five industry teams under the concept design phase of this effort.

The future OMFV will be a sustainable platform that can be remotely controlled while providing protection and lethality with an open-architecture design that will allow future improvements.

Meanwhile, prior to the invasion of Ukraine, Russia was planning to start live-fire tests of the Shturm heavy UGV, which is based on the T-72 tank. The project is run by UralVagonZavod and involves development of four variants to be built on a common MBT chassis with different armaments for various combat missions.

In the Indo-Pacific region, the Combat Vehicles Research and Development Establishment, part of India's Defence Research and Development Organisation, has proposed a development programme for an uncrewed combat vehicle based on the Arjun Mk 1A tank, retaining a 120mm main gun as its primary weapon.

Furthermore, the Israel Defense Forces are betting on advanced AI and automation technologies to harness their next-generation Carmel tracked AFV. With the goal of pursuing a minimally crewed platform for asymmetrical, conventional and urban warfare operations, the service selected IAI in October 2021 as the prime contractor in the next phase of development for Carmel.

France is another country looking to leverage AI to enhance its ground fleet. The DGA has been conducting the Caméléon project, which is planned to develop AI-based software to provide real-time adaptive camouflage to combat vehicles.

In terms of survivability, some indigenous solutions were announced in the last 12 months. Japan's Acquisition, Technology & Logistics Agency, for instance, is developing ballistic plates ►

made of synthetic resins and ceramics to enhance protection of field ambulances.

Elsewhere, the Natural Sciences and Engineering Research Council of Canada is researching a new domestically developed ceramic add-on vehicle armour. The initiative is expected to reduce the time required to develop and field future armoured fleets.

Additionally, to enhance the safety of their AFVs, European forces have been testing Rafael's Trophy active protection system (APS). Trials with the system involved the British Army under the Challenger 2 Life Extension Project and Germany with the Leopard 2 MBT.

France is also seeking an APS and has introduced the PROMETEUS (PROtection Multi Effets Terrestre Unifiée pour Scorpion) programme. This aims to develop the Diamant APS for installation on the French Army's Griffon armoured vehicle.

Lethality is being improved as well. For example, Bulgarian SOF 4x4 armoured vehicles received the Guardian modular RWS from Escribano in 2022 to provide short- and medium-range defence.

The US Army also fielded Stryker 8x8s featuring the



In 2022, the US Army fielded Stryker 8x8s with CROWS and CROWS-J weapon stations. (Photo: US Army)

Common Remotely Operated Weapon Station (CROWS) and CROWS-Javelin (CROWS-J) under a larger effort to improve the capabilities of these vehicles and enhance the service's ability to detect, identify and engage targets.

Thus far, it is clear that the war in Ukraine will impact developments in armoured vehicles. By seeing Russia's struggle to support its combat fleet and keep its platforms operational, armies worldwide are likely to seek systems that have a smaller footprint in terms of logistics.

There will be greater demand for vehicles featuring hybrid-electric and energy-efficient systems that are able to operate with alternative fuels and provide longer range, better mission endurance,

autonomy, resilience, silent mobility and stealth.

This also aligns with the potential scenario armoured fleets may face in the future due to climate change. The environment-altered battlefield will require the deployment of vehicles that can operate in extreme weather conditions.

Some countries such as China, Russia and the US have already been seeking platforms that can be deployed in hot and cold environments. In the coming years, other armies are likely to follow their lead and launch new programmes to procure vehicles that are suitable for Arctic and desert operations.

Flavia Camargos Pereira,
Land Reporter

STRENGTH THROUGH PERFORMANCE





SPECIFICATIONS

RECONNAISSANCE AND PATROL VEHICLES

This section provides a guide to reconnaissance and patrol vehicles, both wheeled and tracked, that are under development or in production, and older vehicles that are being substantially modernised to extend their service lives.

The specifications listed here are intended to provide a handy reference source for the basic parameters that describe the vehicle's performance. Most data has been supplied by the manufacturers, who can give more detailed information on request.

Entries are listed alphabetically by company.

If you think your product should be listed, please contact the team at insight@shephardmedia.com to ensure it appears in the *Shephard Defence Insight* online database (shephardmedia.com/defenceinsight) and is included in the next handbook edition.

ABOVE: A Jackal 2 armoured reconnaissance vehicle of the British Army's Royal Scots Dragoon Guards. (Photo: British Army)

AM General ► M1151 HMMWV

AM General designed the High-Mobility Multipurpose Wheeled Vehicle (HMMWV) to meet US Army requirements for a durable, mobile and reliable soft-skin light utility vehicle. The first armoured HMMWVs date back to the mid-1990s. To meet the need for increasing numbers, AM General responded with production line-installed armour for the M1100 series, based on the Expanded Capacity Vehicle, beginning in 2005. More than 250,000 HMMWVs are in use worldwide in over 60 different countries. **Length:** 4.93m **Width:** 2.31m **Height:** 1.99m **Ground clearance:** 0.44m **Weight:** 5.49t **Payload:** 1,814kg **Max speed:** 113km/h **Range (on road):** 400km **Crew:** 2 **Passengers:** 2



Arquus ► Dagger PVP

The Dagger PVP (Petit Véhicule Protégé) was developed to meet a French Army requirement for a light, general-purpose armoured 4x4 vehicle that could undertake missions such as reconnaissance, transport and signals previously performed by unprotected light utility vehicles. The French Army has received 1,163 PVPs ordered since 2004. The PVP has also been sold to Chile, Romania and Togo. **Length:** 4.24m **Width:** 2m **Height:** 2.18m **Ground clearance:** 0.34m **Weight:** 5.5t **Max speed:** 105km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 6



Arquus ► Scarabée

The Arquus Scarabée (Scarab) is a 4x4 armoured vehicle developed for reconnaissance and scouting missions. Unveiled by Arquus at the 2018 Eurosatory exhibition, it was developed for the French Army's VBAE (Véhicule Blindé d'Aide à l'Engagement) project, which is expected to be launched in 2025 to replace the service's Panhard 4x4 VBL (Véhicule Blindé Léger) light reconnaissance vehicles. In order to meet the stealth and manoeuvrability requirements of a scouting vehicle, the Scarabée features a hybrid diesel-electric drivetrain and four-wheel steering that enables the vehicle to move sideways like a crab. **Length:** 5.25m **Width:** 2.1m **Height:** 2m **Ground clearance:** 0.39m **Weight:** 8t **Max speed:** 131km/h **Range (on road):** 800km **Crew:** 3 **Passengers:** 1



Arquus/Mack Defense ► Sherpa Light Scout

The Sherpa Light Scout 4x4 is available in both armoured and unarmoured variants and builds on Renault's Sherpa tactical vehicle series in service with France and other countries. The Light Scout can be configured to carry four or five soldiers in addition to the driver. Additionally, add-on armour can be fitted to provide additional ballistic and mine protection. As of mid-May 2020, 1,000 Sherpas of all variants have been produced. **Length:** 5.53m **Width:** 2.36m **Height:** 2.13m **Ground clearance:** 0.33m **Weight:** 11t **Payload:** 3,300kg **Max speed:** 110km/h **Range (on road):** 100km **Crew:** 5 **Passengers:** 1



Arquus/Nexter Systems/Thales ► Jaguar EBRC

The Jaguar Armored Reconnaissance and Combat Vehicle (EBRC) is a 6x6 armored reconnaissance vehicle manufactured by a consortium formed of Nexter Systems, Arquus (formerly Renault Trucks Defense) and Thales. The Jaguar will replace France's AMX-10RC and Sagaie armored reconnaissance vehicles and the VAB HOT tank destroyer. The Jaguar EBRC and the Griffon VBMR were the first two platforms designed under the umbrella of the French Army's Scorpion digitised battle project. **Length:** 7.8m **Width:** 3m **Height:** 3.5m **Weight:** 25t **Max speed:** 110km/h **Range (on road):** 800km **Crew:** 3 **Passengers:** 0



Ashok Leyland ► LBPV

The Ashok Leyland Light Bulletproof Vehicle (LBPV) is based on Lockheed Martin's Common Vehicle Next Generation (CVNG) 4x4 armored vehicle platform, though it features several adaptations to make it suitable for production in India. Designed to meet the requirements of the Indian Air Force for a lightly armored patrol vehicle, it can carry up to six personnel as well as additional cargo on its rear load platform. **Weight:** 6t **Crew:** 2 **Passengers:** 4



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Avibras Indústria Aeroespacial ► Guará WS

Avibras is marketing the 4x4 Guará WS light armoured vehicle, a further development of its 4x4 AV-VB4 RE Guará prototype. Developed in cooperation with the IPD (Institute for Research and Development of the Army), the original AV-VB4 RE Guará prototype was first displayed at the LAAD 2003 defence exhibition and was used by the Brazilian contingent serving with the UN Stabilization Mission in Haiti. **Length:** 5.6m **Width:** 2.4m **Height:** 2.2m **Weight:** 10t **Payload:** 1,500kg **Crew:** 2 **Passengers:** 8



Calidus ► LRV-20

The LRV-20 is an open-topped 4x4 tactical vehicle developed by Calidus in the UAE. Though little is known regarding its capabilities, it appears to be aimed at supporting patrol or SOF missions. There is no indication that the LRV-20 is fitted with armour, but customers can mount various weapons on the vehicle. **Length:** 4.62m **Width:** 1.9m **Height:** 1.87m **Ground clearance:** 0.21m **Weight:** 3.45t **Payload:** 1,000kg **Max speed:** 160km/h **Range (on road):** 750km **Crew:** 1 **Passengers:** 3



Concept Sp. z.o.o. ► LPU Wirus-4

The Light Strike Vehicle (LPU) Wirus-4 was developed by a consortium of Polish companies Concept and PHO to meet the requirements of the Polish Army's Żmija (Viper) Long-Range Reconnaissance Vehicle programme. Based on a commercial Mitsubishi L200 4x4 pickup truck chassis, it can provide rapid transport for three troops and carry sufficient equipment and supplies to sustain them for up to seven days of continuous operations. The vehicle has a ring mount on the roof and a swing mount on the passenger side for mounting machine guns. **Length:** 4m **Width:** 2m **Height:** 2.6m **Ground clearance:** 0.24m **Weight:** 2.6t **Payload:** 900kg **Crew:** 3



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The commercial variant of the highly successful Bronco All Terrain Tracked Carrier, the ExtremV is designed for disaster relief and rescue operations. This highly versatile multi-tasker can be used as a personnel, logistics or equipment transporter anywhere from the freezing arctic to the blazing desert.

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WATCH VIDEO

Concept Sp. z.o.o. ► LTMPAV Dino 519

The LTMPAV Dino 519 is an armored version of Concept's Dino 319. **Length:** 2.05m **Width:** 5.6m **Height:** 2.46m **Ground clearance:** 0.24m **Weight:** 4.6t **Payload:** 1,000kg **Crew:** 2 **Passengers:** 7



Concept Sp. z.o.o. ► LTMPV Dino 319

The LTMPV Dino 319 is a light multipurpose vehicle designed to be a high mobility off-road vehicle. It is closed top and has 5 doors. **Length:** 2.05m **Width:** 5.6m **Height:** 2.46m **Ground clearance:** 0.24m **Weight:** 3.5t **Payload:** 1,000kg **Crew:** 2 **Passengers:** 7



Defenture ► ATTV

The ATTV (Air Transportable Tactical Vehicle) is a 4x4 patrol vehicle developed by Defenture. It is optimised for transport in CH-47 helicopters or other comparable transport aircraft and helicopters. Since its reveal at Eurosatory in June 2014, the ATTV has entered service with the Dutch SF, where it has received the designation 'VECTOR' (Versatile Expeditionary Commando Tactical Off Road). Apart from use by SF, the ATTV is also marketed as a vehicle suitable for performing combat patrols or assisting in air-mobile operations. **Length:** 5.1m **Width:** 1.8m **Height:** 2.21m **Ground clearance:** 0.34m **Weight:** 4.77t **Payload:** 1,440kg **Range (on road):** 800km **Crew:** 1 **Passengers:** 4



Dutch Military Vehicles ► Anaconda

The Anaconda was developed by Dutch Military Vehicles (DMV) in response to a Royal Netherlands Marine Corps (RNMC) tender released in May 2018 for a new light tactical vehicle that could assist with patrols and disaster relief missions. It is based upon a modified Iveco Daily commercial truck chassis that has been converted to four-wheel drive and fitted with a new open-topped body capable of accommodating four personnel, cargo and machine guns. A total of 46 of these vehicles were ordered in July 2018 and delivered to the Dutch Antilles in early 2019. **Length:** 5.27m **Width:** 2.26m **Height:** 2.27m **Ground clearance:** 0.5m **Weight:** 3.9t **Payload:** 2,200kg **Max speed:** 110km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 2



Elbit Systems Land ► CombatGuard

IMI Systems unveiled its new CombatGuard, a 4x4 armoured combat vehicle designed to provide a high level of off-road mobility, at Eurosatory 2014. It is intended for a range of missions such as reconnaissance, border patrol, C2 and medical evacuation. As of early 2018, there have been no announced sales. **Ground clearance:** 0.7m **Weight:** 8t **Payload:** 1,500kg **Max speed:** 150km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 6



FNSS Savunma Sistemleri A.Ş. ► Pars 4x4

The Pars 4x4 is an amphibious 4x4 developed by FNSS to meet the Turkish Land Forces' requirement for a wheeled antitank vehicle. It has a power-to-weight ratio of 25hp/t, a low silhouette and can be transported by CH-47 Chinook helicopters. On 27 June 2016, Turkey's SSM defence procurement agency signed a contract with FNSS for 76 Pars 4x4 and 180 tracked Kaplan antitank vehicles. **Length:** 5m **Width:** 2.6m **Height:** 3.1m **Max speed:** 110km/h **Range (on road):** 700km **Crew:** 4



FNSS Savunma Sistemleri A.Ş. ► Pars Scout 8x8

The Pars Scout 8x8 is being developed alongside the Pars Scout 6x6 to meet a requirement from the Turkish Land Forces Command for a Special Purpose Tactical Wheeled Armoured Vehicle family. Although it shares many of its features with the Pars III, the Pars Scout 8x8 features an enlarged cab offering greater situational awareness for the crew and makes use of flat surfaces to facilitate the integration of additional armour.

Length: 8m **Width:** 3m **Height:** 2.5m **Max speed:** 100km/h
Range (on road): 700km **Crew:** 2



General Dynamics European Land Systems – Mowag ► Eagle V 4x4

GDELS unveiled the fifth generation of its Eagle light tactical vehicle at Eurosatory 2012. The platform has replaced earlier-generation vehicles in production. More than 1,250 previous-generation vehicles were built for Danish, German and Swiss military customers. Germany was the launch customer for the Eagle V with an order for 176 vehicles and the Danish Army will receive 36 vehicles from 2018. **Length:** 5.4m **Width:** 2.28m **Height:** 2.35m **Ground clearance:** 0.4m **Weight:** 10t **Payload:** 3,000kg **Max speed:** 110km/h **Range (on road):** 700km **Crew:** 5



General Dynamics European Land Systems – Mowag ► Eagle V 6x6

GDELS unveiled the fifth generation of its Eagle light tactical vehicle in both 4x4 and 6x6 models at Eurosatory 2012. The Eagle V has replaced earlier-generation vehicles in production. More than 1,250 previous-generation vehicles were built for Danish, German and Swiss military customers. Germany was the launch customer for the Eagle V 4x4 with an order for 176 vehicles, but there have been no production orders for the Eagle 6x6. **Length:** 6.99m **Width:** 2.28m **Height:** 2.35m **Ground clearance:** 0.4m **Weight:** 15t **Payload:** 7,300kg **Max speed:** 110km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 12





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IDV

General Dynamics Land Systems ► Stryker Reconnaissance Vehicle

The M1127 Stryker Reconnaissance Vehicle (RV) is one of the ten original variants of the US Army's 8x8 Stryker vehicle family introduced into service in 2002. Each Stryker Brigade Combat Team (SBCT) has 51 M1127s which equip the RSTA (Reconnaissance, Surveillance and Target Acquisition) Squadron and the Stryker battalion reconnaissance platoons. As the army fields Double Vehicle Hull (DVH) Strykers, the M1256 Infantry Carrier Vehicle DVH-Scout (ICVV-S) configuration is being introduced in the reconnaissance role. **Length:** 6.95m **Width:** 2.72m **Height:** 2.64m **Ground clearance:** 0.47m **Weight:** 16.5t **Max speed:** 97km/h **Range (on road):** 531 km **Crew:** 3 **Passengers:** 3



General Dynamics UK ► Ocelot/Foxhound

Force Protection Europe and engineering company Ricardo developed the 4x4 Ocelot for the British Army's requirement for a Light Protected Patrol Vehicle (LPPV) for service in Afghanistan, which could protect against mine/improvised explosive blasts. In September 2010, the MoD selected the Ocelot from the competing designs and in November 2010 awarded a £180 million (\$224 million) contract for 200 LPPVs, designated Foxhound. Additional orders through 2013 increased the total to 400. **Length:** 5.4m **Width:** 2.07m **Height:** 2.34m **Ground clearance:** 0.34m **Weight:** 7.5t **Payload:** 2,000kg **Max speed:** 132km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 4



IAI Ramta ► RAM MK3

The Ram Mk3 (sometimes referred to as the Ram-2000), introduced in 2004, is the latest generation of the 4x4 Ram multi-mission light armoured vehicle, which has been in service for more than 30 years. IAI has supplied more than 450 Ram vehicles in more than 20 variants to military and police customers around the world. **Length:** 6m **Width:** 2m **Height:** 2.1m **Ground clearance:** 0.53m **Weight:** 7.2t **Max speed:** 96km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 6



International Armored Group ► Guardian Max LTV

IAG introduced the Guardian MAX LTV (Light Tactical Vehicle), based on a commercially available Ford HD truck chassis, at IDEX 2017. To meet specific mission requirements, the Guardian MAX LTV can be equipped with an RWS and surveillance equipment or be equipped as a recovery vehicle.

Length: 5.5m **Width:** 2.4m **Height:** 2.5m **Ground clearance:** 0.29m **Weight:** 6.8t **Max speed:** 120km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 3



International Armored Group ► Jaws

In early 2013, IAG introduced the 4x4 Jaws APC designed for use by government, military and law enforcement customers. Based on a Toyota Land Cruiser 200, it is available in both left- and right-hand drive. It can also be equipped with either a 4.5L V8 twin-turbo diesel engine or 4.6L V8 petrol engine offering up to 300hp, coupled to a six-speed automatic transmission. **Length:** 5.3m **Width:** 2.1m **Height:** 2.1m **Ground clearance:** 0.28m **Weight:** 5.5t **Max speed:** 130km/h **Crew:** 2 **Passengers:** 6



International Armored Group ► Sentry

The Sentry is a lightweight APC specifically designed for border patrol and reconnaissance missions. Its high mobility, great manoeuvrability and survivability make it ideal for both highly dense urban settings as well as rural theatres. **Length:** 5.3m **Width:** 2m **Height:** 2.4m **Ground clearance:** 0.28m **Weight:** 5.5t **Max speed:** 130km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 6



Iveco Defence Vehicles ▶ LMV1

Iveco Defence Vehicles introduced the 4x4 Light Multirole Vehicle (LMV) in 2001 to provide a vehicle with high levels of cross-country mobility and armour protection. It has continued to introduce improvements to its protection and mechanical components. Typical roles for the vehicle include reconnaissance, patrol, liaison, escort and utility. More than 4,000 LMV1s have been sold to 15 different countries, including Italy, which ordered more than 2,000 under the local designation Lince. In 2016, the LMV family was joined by the improved LMV2. **Length:** 4.9m **Width:** 2.2m **Height:** 2.2m **Ground clearance:** 0.47m **Weight:** 7.1t **Payload:** 800kg **Max speed:** 110km/h **Range (on road):** 700km **Crew:** 1 **Passengers:** 4



Iveco Defence Vehicles ▶ LMV2

In 2016, Iveco Defence Vehicles introduced the 4x4 Light Multirole Vehicle 2 (LMV2), an improved variant of its LMV1. In response to customer feedback, the LMV2 provides greater protection, more payload and advanced electronic capabilities, according to the manufacturer. The LMV2 is in production for the Italian Army, which has adopted it as the Light Multirole Tactical Vehicle 2 (VTLM 2) Lince (Lynx). **Length:** 5.1m **Width:** 2.3m **Height:** 2.25m **Ground clearance:** 0.35m **Weight:** 8.3t **Payload:** 1,500kg **Max speed:** 110km/h **Crew:** 1 **Passengers:** 4



Jordan Design and Development Bureau (JODDB) ▶ Desert Iris

The Desert Iris is an air-transportable multi-mission 4x4 utility vehicle built to meet the requirements of the Jordanian Armed Forces. Capable of carrying a crew of four, this unarmoured vehicle can be equipped with a variety of weapons payloads ranging from pintle-mounted machine guns to rocket launchers. It has been widely exported across the Middle East, with Bahrain, Libya, Saudi Arabia and the UAE also operating the vehicle. **Length:** 4.1m **Width:** 1.8m **Height:** 1.7m **Ground clearance:** 0.35m **Weight:** 1.65t **Payload:** 500kg **Max speed:** 120km/h **Range (on road):** 600km **Crew:** 1 **Passengers:** 3



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KIA Motors ► KLTV

Kia unveiled one of the 21 prototypes of the 4x4 Kia Light Tactical Vehicle (KLTV) it is developing for the Republic of Korea Army (ROKA) in February 2015. They began field evaluations in January 2017. The KLTV is produced in both armoured and non-armoured versions with a long wheelbase and non-armoured versions with a short wheelbase. **Length:** 4.9m **Width:** 2.19m **Height:** 2.32m **Ground clearance:** 0.4m **Weight:** 7t **Payload:** 1,000kg **Max speed:** 130km/h **Range (on road):** 640km **Crew:** 2 **Passengers:** 6



Krauss-Maffei Wegmann ► Fennek

The 4x4 Fennek was developed in the 1990s to meet the needs of the German Army and the Royal Netherlands Army for a light armoured reconnaissance vehicle. Since 2001, more than 660 Fenneks have been built for Germany, the Netherlands and most recently Qatar. Krauss-Maffei Wegmann markets eight Fennek variants based on those developed for the two primary customers: reconnaissance; C2; medium-range antitank; forward artillery observer; joint fire support team (JFST); pioneer reconnaissance; Stinger weapon platform (SWP); and Fennek tactical air control party. **Length:** 5.5m **Width:** 2.5m **Height:** 1.7m **Ground clearance:** 0.4m **Weight:** 12t **Max speed:** 100km/h **Range (on road):** 1,000km **Crew:** 3



Krauss-Maffei Wegmann/Rheinmetall MAN Military Vehicles ► AMPV

Krauss-Maffei Wegmann and Rheinmetall MAN Military Vehicles (RMMV) announced in mid-2008 the launch of a joint programme to develop a highly protected vehicle family, the Armoured Multi-Purpose Vehicle (AMPV), in the 5-9t weight range to meet the Class 1 and Class 2 requirements within Germany's GFF programme to acquire protected command and role-specific vehicles. The AMPV was not selected for the GFF project, but the partners continue to market the vehicle for export. There has been no launch customer as of early 2019. **Length:** 5.3m **Width:** 2.2m **Height:** 2.1m **Ground clearance:** 0.35m **Weight:** 9.3t **Payload:** 2,000kg **Max speed:** 110km/h **Range (on road):** 700km **Crew:** 3 **Passengers:** 2



MDT Armor ► Tiger LPV

The MDT Armor 4x4 Tiger Light Protected Vehicle (LPV) is designed to meet the requirements of military and law enforcement customers for a survivable, light protected all-terrain vehicle that can be configured to seat up to nine personnel. Although there have been no reported military customers as of early 2018, the Tiger has been sold to law enforcement agencies in Mexico and the US. **Length:** 5.6m **Width:** 2.42m **Height:** 0m **Ground clearance:** 0.3m **Weight:** 10.4t **Payload:** 1,360kg **Max speed:** 120km/h **Range (on road):** 610km **Crew:** 1 **Passengers:** 8



MDT Armor ► Tiger MkII

A future development of the MDT Armor Tiger Light Protected Vehicle, the Tiger MkII can be configured for various roles, including a personnel carrier able to seat up to 11 occupants. The Tiger MkII features an armoured capsule mounted on a modified commercial Dodge RAM 5500 or Ford F550 pickup truck. Using a COTS platform is intended to reduce initial cost, reduce spare parts costs and reduce maintenance costs. The Tiger MkII is in service with Mexican law enforcement agencies. **Length:** 6.2m **Width:** 2.42m **Height:** 2.4m **Ground clearance:** 0.3m **Weight:** 8.85t **Payload:** 2kg **Max speed:** 120km/h **Range (on road):** 600km **Crew:** 1 **Passengers:** 11



Mercedes-Benz Defence Vehicles ► Enok LAPV

Mercedes-Benz introduced its new Light Armoured Patrol Vehicle (LAPV) family at Eurosatory 2010. The LAPV 5.4 and LAPV 6.1 are based on the company's widely employed G-Class light utility vehicle. Germany ordered 331 LAPV 5.4 vehicles with the military designation Enok and the vehicle has also been bought by Switzerland. **Length:** 4.69m **Width:** 2.33m **Height:** 2.06m **Ground clearance:** 0.22m **Weight:** 4.33t **Payload:** 1,070kg **Max speed:** 120km/h **Range (on road):** 700km **Crew:** 1 **Passengers:** 3



Military Industrial Company ▶ Tigr/Tigr-M

The 4x4 GAZ Tigr multipurpose vehicle is designed for various missions, including patrol, convoy escort, rapid reaction and counterterrorism operations. The first prototype was completed in 2000 and serial production began in 2004. It has been in the Russian Ministry of Interior service since 2006 and Russian Army service since 2008. More than 2,000 Tigrs have reportedly been produced for customers across 16 different countries. **Length:** 5.7m **Width:** 2.3m **Height:** 2.3m **Ground clearance:** 0.4m **Weight:** 7.6t **Payload:** 1,500kg **Max speed:** 125km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 11



Minerva Special Purpose Vehicles ▶ Panthera T4

The Panthera is a light armoured patrol vehicle manufactured by Minerva Special Purpose Vehicles (MPSV). It is designed to provide high mobility across the battlefield. Although it is unclear how many are in operation, the Madagascan Armed Forces are known to be fielding the T4. **Length:** 5.5m **Width:** 1.85m **Height:** 2.34m **Crew:** 2 **Passengers:** 6



Minotor-Service ▶ 2T Stalker

Minotor-Service developed the 2T Stalker tracked reconnaissance vehicle as a private venture, both to meet a potential Belarus Army requirement and for the export market. The first of two prototypes was completed in 2000 and exhibited for the first time at IDEX 2001, and an upgraded version was displayed at IDEX 2003. According to Minotor, the 2T Stalker has been evaluated by several countries, but there have been no customers as of early 2018. **Length:** 7.68m **Width:** 3.39m **Height:** 2.5m **Ground clearance:** 0.4m **Weight:** 27.4t **Max speed:** 115km/h **Range (on road):** 1,000km **Crew:** 5



ARMORED VEHICLES



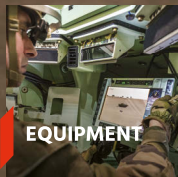
Nexter, land defense architect and system integrator in France, is a major reference in armored combat systems, artillery, and in the ammunition field. Nexter designs innovative solutions for land, air, sea and security forces, in order to bring French and foreign armed forces a decisive operational advantage.



**TURRETS
& GUNS**



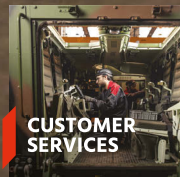
AMMUNITION



EQUIPMENT



**ARTILLERY
SYSTEMS**



**CUSTOMER
SERVICES**

Nexter Systems/Texelis ► VBMR-L Serval

In February 2018, France's DGA defence procurement agency selected Nexter, in partnership with Texelis, to develop and produce the 4x4 Lightweight Multi-Role Armoured Vehicle (VBMR-L) lightweight multirole armoured vehicle, the third new vehicle to be supplied under the umbrella of the French Army's Scorpion modernisation project. Now known as Serval, this vehicle will replace some variants of the army's 4x4 VAB APC, VLRA and P4 light trucks. **Weight:** 17t **Max speed:** 100km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 8



Nimr Automotive ► Ajban 440A

The 4x4 Ajban 440A is a multipurpose protected patrol variant of the Ajban class of 4x4 tactical vehicle designed and developed by Nimr Automotive. In 2018, Nimr began deliveries of the 115 Ajban 440A vehicles ordered by the UAE Armed Forces in 2017. **Length:** 5.6m **Width:** 2.35m **Height:** 2.35m **Ground clearance:** 0.45m **Weight:** 10.92t **Payload:** 1,200kg **Max speed:** 110km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 2



Nimr Automotive ► Ajban 447A

The Ajban 447A is a seven-crew military tactical vehicle featuring a configurable armoured cabin designed for different missions, including tactical response, border patrol, reconnaissance, COIN and SF operations. A prototype was displayed at IDEX 2019. **Length:** 5.56m **Width:** 2.35m **Height:** 2.17m **Weight:** 9.59t **Payload:** 3,995kg **Max speed:** 120km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 5



Norinco ► CS/VN3

Norinco developed the 4x4 VN3 reconnaissance vehicle for both the Chinese People's Liberation Army (PLA) and for the export market. Development was completed in 2007 and the vehicle entered production in 2013 for the PLA, although neither the PLA nor Norinco will confirm how many have been ordered. A small number of vehicles have also been exported to Belarus (where it is known as the Drakon (Dragon)) and Tajikistan. **Length:** 4.62m **Width:** 2.2m **Height:** 1.77m **Ground clearance:** 0.41m **Weight:** 5.7t **Max speed:** 110km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 3



Nurol Makina ve Sanayi ► Ejder Yalçın

The Ejder Yalçın is a 4x4 tactical combat vehicle that has been designed to meet the requirements of military and security users in both rural and urban areas. A prototype was displayed in 2014 and production began the same year. The vehicle features a V-shaped hull design, floating floor plates and blast mitigation seating to provide protection against mines and IEDs. **Length:** 5.62m **Width:** 2.5m **Height:** 2.58m **Ground clearance:** 0.45m **Weight:** 14t **Payload:** 4,000kg **Max speed:** 120km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 9



Nurol Makina ve Sanayi ► NMS/Yörük

The NMS, also called the Yörük in Turkish, is a 4x4 armored vehicle developed by Nurol Makina. This modular design can be produced in several different configurations and outfitted with a variety of optional armaments, armour protection packages and features. Despite its military aesthetic, the vehicle is intended for both the civil and the military sectors and can be extensively customised in order to fulfil a range of different roles. **Length:** 5.4m **Width:** 2.4m **Height:** 2.1m **Ground clearance:** 0.42m **Weight:** 10.4t **Payload:** 2,000kg **Max speed:** 140km/h **Range (on road):** 700km **Crew:** 5 **Passengers:** 4



Oshkosh Defense ▶ L-ATV/JLTV

The US Army selected the Oshkosh Light Combat Tactical All-Terrain Vehicle (L-ATV) design for its 4x4 Joint Light Tactical Vehicle (JLTV) project in 2015 to replace many of its HMMWVs. Oshkosh was awarded a \$6.7 billion low-rate initial production contract to supply up to 16,901 JLTVs and, after some delays, the full-rate production decision was approved in June 2019. In total, the US Army is seeking up to 49,099 JLTVs through to 2040, while the USMC wants 5,500 vehicles by 2022. **Length:** 6.2m **Width:** 2.5m **Height:** 2.6m **Weight:** 6.4t **Max speed:** 120km/h **Range (on road):** 640km **Crew:** 3 **Passengers:** 5



Otokar ▶ Akrep II

The Akrep II is a 4x4 armoured vehicle designed to carry out armed reconnaissance and provide fire support to infantry formations. As well as a conventional diesel-powered Akrep II version, the vehicle has also been tested in an all-electric Akrep IIe incarnation that offers a reduced thermal and acoustic signature. Although the vehicle was first displayed at IDEF 2019 with a 25mm cannon and sensor mast, customers are able to configure the vehicle with different weapons and subsystems, including a 90mm cannon. **Length:** 5.9m **Width:** 2.5m **Height:** 1.98m **Ground clearance:** 0.4m **Weight:** 15t **Max speed:** 110km/h **Range (on road):** 200km **Crew:** 3 **Passengers:** 0



Otokar ▶ Cobra

Otokar began deliveries of its 4x4 Cobra light armoured vehicle to the Turkish Land Forces Command in 1997. Cobra is a modular platform, providing high mobility and levels of protection, adaptability to various missions and a low logistic footprint. More than 2,500 Cobras in numerous variants have been sold to customers in over 15 countries. **Length:** 5.2m **Width:** 2.2m **Height:** 2.1m **Ground clearance:** 0.4m **Weight:** 6.3t **Max speed:** 110km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 7



Otokar ► Cobra II

The 4x4 Cobra II is the next generation of Otokar's Cobra family, which has been sold to 15 countries. It offers higher protection, greater payload capacity and more internal volume than the first-generation design while retaining its off-road capability. Otokar unveiled the Cobra II in May 2013, and since then, Turkey is believed to have ordered more than 250 vehicles. **Length:** 6m **Width:** 2.7m **Height:** 2.3m **Ground clearance:** 0.5m **Weight:** 12t **Max speed:** 110km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 7



GENERAL DYNAMICS

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Otokar ► Ural

Otokar unveiled its new Ural 4x4 armoured tactical utility vehicle at the IDEF exhibition in May 2013. The vehicle is being offered in three-door and five-door configurations, with the largest able to carry ten personnel, including the driver. As a modular design, it can be adapted for several different roles, including internal security, refuelling, ambulance and C2.

Length: 5.33m **Width:** 2.16m **Height:** 2.46m **Weight:** 6.4t

Max speed: 110km/h **Range (on road):** 600km **Crew:** 1

Passengers: 7



Panus ► HMV-420P 'Mosquito'

The HMV-420P 'Mosquito' 4x4 AFV is a modernised development of Cadillac Gage's Vietnam War-era Commando APC. It has been adapted for use by the Royal Thai Army to be a low-cost vehicle capable of carrying out a range of different operations.

Length: 6.72m **Width:** 2.85m **Height:** 2.98m

Weight: 18t **Max speed:** 110km/h **Crew:** 2



Pindad (Persero) ► Komodo

PT Pindad completed the prototype of the 4x4 Komodo multirole vehicle in March 2012. At the IndoDefence exhibition in November 2012, government officials said at least 240 Komodo vehicles would be built for the Indonesian armed forces and police. Although it is unclear how many, the Indonesian Army (TNI-AD) has received many Komodo 4x4 armoured vehicles since PT Pindad first unveiled the platform, most recently receiving ten units in January 2022.

Length: 5.65m **Width:** 2.25m **Height:** 2.15m **Ground clearance:** 0.44m

Weight: 7.3t **Payload:** 1,500kg **Max speed:** 100km/h **Range (on road):** 450km **Crew:** 1 **Passengers:** 4



Plasan Sasa/Oshkosh Defense ► SandCat

The 4x4 SandCat family of vehicles was designed by Israeli armour specialist Plasan Sasa in 2005 for a range of military, special operations, homeland security, law enforcement, disaster aid and peacekeeping missions. Civil and military customers in Bulgaria, Canada, Israel, Mexico, Nigeria, Poland, South Korea, Sweden and the US use the vehicle for border patrol, security, law enforcement and military operations.

Length: 5.6m **Width:** 2m **Height:** 2.4m **Ground clearance:** 0.26m **Weight:** 8.8t **Payload:** 2,000kg **Max speed:** 120km/h **Range (on road):** 550km **Crew:** 2 **Passengers:** 9



PT Jala Berikat Nusantara Perkasa ► ILSV

At IndoDefence in November 2014, PT Jala Berikat Nusantara Perkasa unveiled the 4x4 Indonesian Light Strike Vehicle (ILSV) which it developed over the previous two years in collaboration with PT Dirlantara Indonesia. In 2016, the company announced the vehicle would enter production in 2017 following a launch order for 20 vehicles from the Indonesian Army. **Length:** 4.99m **Width:** 1.88m **Height:** 1.9m **Ground clearance:** 0.35m **Weight:** 2.7t **Max speed:** 120km/h **Range (on road):** 870km **Crew:** 2 **Passengers:** 6



SOFRAME ► MOSAIC

Soframe unveiled the Mission Observation Surveillance Acquisition Investigation Combat (MOSAIC) light reconnaissance and support vehicle in February 2021. Developed to meet the requirements of the French Army's Armoured Engagement Assistance Vehicle (VBAE) programme and for the wider global market, the vehicle has an open architecture, stealth capabilities, the ability to mount various manned or remote weapon systems and the option to operate a hybrid-electric drivetrain. **Weight:** 8t **Crew:** 4



STC Delta ► Didgori AMEV

The Didgori Armoured Medical Evacuation Vehicle (AMEV) is a variant of the Didgori APC manufactured by STC Delta. It is designed to ensure the safe transportation of wounded soldiers from the frontline of military operations and to provide medical aid during this process. Following a contract worth \$40 million, 115 AMEVs were delivered to Saudi Arabia from 2016 onwards. In October 2020, the Georgian Armed Forces received 21.

Length: 6.5m **Width:** 2.39m **Height:** 2.2m **Ground clearance:** 0.4m **Weight:** 10.9t **Max speed:** 120km/h **Range (on road):** 500km **Crew:** 3 **Passengers:** 4



STC Delta ► Didgori Meomari

Introduced by STC Delta into the Didgori range in 2018, the Didgori Meomari is a 4x4 modular armored support vehicle capable of operating in a variety of configurations. It shares the same armour and engine as other vehicles in the Didgori family. In October 2020, 14 were delivered to the Georgian Armed Forces. **Length:** 5.62m **Width:** 2.42m **Height:** 2.44m **Weight:** 7t **Max speed:** 120km/h **Range (on road):** 500km **Crew:** 2 **Passengers:** 3



Supacat ► HMT 400

The High Mobility Transporter (HMT) range of vehicles, developed in the 1990s, is available in 4x4 HMT 400, 6x6 HMT 600 and convertible Extenda configurations. Designed by Supacat, the HMT is manufactured under licence from Lockheed Martin, which acquired Supacat in 2006. The vehicles have oversized wheels, a high power-to-weight ratio and long-travel as well as variable-height suspension, providing a high degree of cross-country mobility. **Length:** 5.79m **Width:** 2.05m **Height:** 2.45m **Ground clearance:** 0.48m **Weight:** 7.6t **Payload:** 2,100kg **Max speed:** 120km/h **Range (on road):** 800km



Supacat ► HMT 600

The High Mobility Transporter (HMT) range of vehicles, developed in the 1990s, builds on Supacat's original All Terrain Mobility Platform and is available in 4x4, 6x6 and convertible Extenda configurations. Designed by Supacat, the HMT is manufactured under licence from Lockheed Martin. Almost 1,000 HMT-series vehicles are in service worldwide, many with SF. **Length:** 7m **Width:** 2m **Height:** 2.45m **Ground clearance:** 0.48m **Weight:** 6.6t **Payload:** 3,000kg **Max speed:** 120km/h **Range (on road):** 700km **Crew:** 1 **Passengers:** 3



Supacat ► HMT Extenda

The Extenda is the latest addition to the 4x4 and 6x6 High Mobility Transporter (HMT) range of vehicles developed in the 1990s. Over-sized wheels, a high power-to-weight ratio and long-travel, variable-height suspension provide the HMT with a high degree of cross-country mobility. Designed by Supacat, the HMT is manufactured under licence from Lockheed Martin, which acquired Supacat in 2006. **Length:** 5.93m **Width:** 2.05m **Height:** 1.89m **Ground clearance:** 0.48m **Weight:** 5.5t **Payload:** 2,100kg **Max speed:** 120km/h **Range (on road):** 700km **Crew:** 1 **Passengers:** 3



Supacat ► HMT Extenda Mk2

Unveiled at DSEI 2019, the High Mobility Transporter (HMT) Extenda Mk2 is an open-topped armoured vehicle designed to support SOF. Like the original Extenda, the Extenda Mk2 can be reconfigured from a 4x4 vehicle to a 6x6 vehicle through the addition of an extra axle, enabling it to be adapted to meet different mission requirements. Compared to its predecessor, the heavier Extenda Mk2 offers an increased payload and can be equipped with ballistic and blast protection at the factory stage. **Length:** 7.05m **Width:** 2.05m **Height:** 2.44m **Ground clearance:** 0.48m **Weight:** 12t **Payload:** 3,800kg **Max speed:** 120km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 4



Supacat ► SPV 400

The 4x4 Supacat Protected Vehicle 400 (SPV 400) series builds on experience and feedback from operational use of other Supacat vehicles, such as the HMT 400. Design characteristics include 'fully integrated protection', with high cross-country performance and compact size for operations in an urban environment and other restricted terrain. The design forms the basis of the Tata Motors Light Armoured Mobility Vehicle (LAMV). There have been no production orders as of early 2019. **Length:** 5.63m **Width:** 2.06m **Height:** 2.63m **Ground clearance:** 0.38m **Weight:** 7.5t **Payload:** 1,500kg **Max speed:** 120km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 4



Tata Motors ► LAMV

At Defexpo India in February 2014, Tata Motors unveiled a prototype of the Light Armoured Mobility Vehicle (LAMV) which it is offering to meet Indian Army requirements. The LAMV has been developed with technical input from Supacat on the basis of the British company's Supacat Protected Vehicle (SPV) 400 design. **Length:** 5.55m **Width:** 2.5m **Height:** 2.35m **Ground clearance:** 0.3m **Weight:** 8t **Payload:** 1,500kg **Max speed:** 105km/h **Crew:** 2 **Passengers:** 4



Textron Systems Marine & Land Systems ► Commando Elite

The 4x4 Commando Elite is an improved derivative of Textron's M1117 Armored Security Vehicle which offers improved mobility, lethality and survivability. The Canadian Army chose the vehicle in 2012 for its Tactical Armoured Patrol Vehicle (TAPV) programme and deliveries of 500 vehicles – 307 configured for general utility and 193 for reconnaissance – began in 2016. The contract also includes an option for another 100 TAPVs. **Length:** 6.8m **Width:** 2.7m **Height:** 2.3m **Ground clearance:** 0.64m **Weight:** 17.2t **Payload:** 3,000,000kg **Max speed:** 105km/h **Range (on road):** 644km **Crew:** 3 **Passengers:** 3



Textron Systems Marine & Land Systems ► Cottonmouth

The Cottonmouth is a purpose-built 6x6 amphibious reconnaissance vehicle designed by Textron Systems to meet the requirements of the USMC's Advanced Reconnaissance Vehicle (ARV) programme. It is built around an open architecture to facilitate the integration of a range of sensors, C4I equipment and weapons stations. An initial prototype of Cottonmouth was unveiled in April 2021 and is undergoing testing with the USMC. **Crew: 2 Passengers: 5**



Thales Australia ► Hawkei

Thales Australia developed the 4x4 Hawkei for the Australian Army's Land 121 Phase 4 Protected Mobility Vehicle – Light (PMV-L) project. The prototype was unveiled in November 2010, and in May 2013, Thales Australia delivered six vehicles – two Command variants, two Utility variants and two Reconnaissance variants – plus a trailer for evaluation. Although the Australian Army placed an order for 1,100 vehicles and 1,058 associated trailers in October 2015, the programme encountered several delays and the first batch of 100 was not delivered until 2018. **Length: 5.78m Width: 2.4m Height: 2.3m Ground clearance: 0.45m Weight: 10.4t Payload: 3,000kg Max speed: 115km/h Range (on road): 600km Crew: 1 Passengers: 5**





SPECIFICATIONS

TANKS

This section provides a guide to tanks that are under development, in production or being substantially modernised. It also includes vehicles, both wheeled and tracked, that are armed with tank guns.

The specifications listed here are intended to provide a handy reference source for the basic parameters that describe the vehicle's performance. Most data has been supplied by the respective manufacturers, who can give more detailed information on request.

Entries are listed alphabetically by company.

If you think your product should be listed, please contact the team at insight@shephardmedia.com to ensure it appears in the *Shephard Defence Insight* online database (shephardmedia.com/defenceinsight) and is included in the next handbook edition.

ABOVE: A Leopard 2A4 of the Royal Canadian Armoured Corps at 3rd Canadian Division Support Base Garrison Wainwright.
(Photo: Canadian Armed Forces)

Aselsan ▶ Leopard 2 Next Generation

Aselsan unveiled its Leopard 2 Next Generation (NG) MBT upgrade proposal for the Turkish Land Forces Command's fleet of almost 300 Leopard 2A4s at Turkey's IDEF defence exhibition in May 2011. The proposal leverages work that Aselsan has done as one of the leading subcontractors for Turkey's Altay MBT project. **Length:** 9.67m **Width:** 3.7m **Height:** 2.48m **Ground clearance:** 0.54m **Weight:** 0.07t **Max speed:** 72km/h **Range (on road):** 550km **Crew:** 4



BAE Systems Hägglunds ▶ CV90120-T

BAE Systems developed the CV90120-T as a private venture to provide customers with a vehicle that combines the firepower of a 120mm-armed MBT with the strategic and tactical mobility of a lighter tracked vehicle, while maintaining a high level of survivability. The first prototype was completed in 1998. There have been no orders and BAE Systems refers to the CV90120-T as a technology demonstrator. **Length:** 8.3m **Width:** 3.2m **Height:** 2.8m **Ground clearance:** 0.4m **Weight:** 35t **Max speed:** 70km/h **Range (on road):** 600km **Crew:** 4



BAE Systems Inc ▶ MPF Prototype

In 1992, the US Army selected the M8 to meet its requirement for an air-transportable Armored Gun System, but the programme was cancelled for budgetary reasons in 1996. However, BAE Systems resurrected the M8 design in 2015 for the US Army's Mobile Protected Firepower programme. This new unnamed platform features several changes to enhance the M8's survivability and tactical mobility but retains its predecessor's ability to fit within a C-130 transport aircraft. **Length:** 8.97m **Width:** 2.69m **Height:** 2.55m **Ground clearance:** 0.41m **Weight:** 23.59t **Max speed:** 72km/h **Range (on road):** 451km **Crew:** 3



BMC Otomotiv Sanayi ve Ticaret ► Altay

The 120mm-armed Altay MBT is being developed to meet the requirements of the Turkish Land Forces Command (TLFC). The Undersecretariat for Defence Industries (SSM) of the Turkish MoD awarded prime contractor status to Otokar in March 2007, although BMC was awarded the contract for mass production in November 2018. **Length:** 10.3m **Width:** 3.9m **Height:** 2.6m **Weight:** 68t **Max speed:** 65km/h **Range (on road):** 450km **Crew:** 4



BUMAR tabědy ► PT-91

The PT-91 Twardy (Hard) tracked MBT is a derivative of the Soviet T-72M1 produced under licence in Poland by Zakłady Mechaniczne Bumar tabedy, now part of Polish Defence Holding. The prototype PT-91 was completed in 1992 and the first of 232 production examples entered Polish Army service in 1995. Bumar tabedy supplied 48 PT-91M export models to Malaysia from 2007, which equip a single armoured regiment. The PT-91Ex is the latest model. **Length:** 10m **Width:** 3.7m **Height:** 2.6m **Ground clearance:** 0.4m **Weight:** 47.5t **Max speed:** 65km/h **Range (on road):** 650km **Crew:** 3



CIO Consorzio Iveco-Oto Melara ► Centauro II

The 8x8 Centauro II mobile gun system, developed to meet an Italian Army requirement, is the latest evolution of the Centauro AFV family. Featuring a redesigned hull to improve blast protection, a more powerful 720hp engine and a new turret armed with a 120mm/45cal main gun, the Centauro II offers greater lethality, mobility and survivability than its predecessor. The Italian Army is believed to be seeking 150 vehicles, having already placed orders for at least 96. **Length:** 8.26m **Width:** 3.38m **Height:** 3.65m **Ground clearance:** 0.4m **Weight:** 30t **Max speed:** 105km/h **Range (on road):** 800km **Crew:** 4



Duro Dakovic Specijalna Vozila ► Degman

The 125mm-armed Degman MBT is a further development of the M-84 tank which the company produced during the Yugoslavian era. The first prototype was completed in 2003, but as of early 2019, there have been no production orders. DDSV is marketing the Degman as both an M-84 upgrade package and as a new-build tank. The Croatian Army wants to upgrade a portion of its 74-strong fleet of M-84s and there are unconfirmed reports that Kuwait may upgrade its 149 M-84s.

Length: 10.14m **Width:** 3.59m **Height:** 2.19m **Ground clearance:** 0.43m **Weight:** 45t **Max speed:** 70km/h
Range (on road): 700km **Crew:** 3



FNSS Savunma Sistemleri A.Ş./Pindad (Persero) ► Kaplan MT

The Kaplan Medium Tank (MT) is a purpose-built light tank developed by FNSS. Equipped with a John Cockerill Defense C3105 turret, it is armed with a 105mm main gun and a 7.62mm or 12.7mm coaxial machine gun. Indonesia adopted the Kaplan MT as the Harimau in April 2019 and will manufacture the vehicle under licence. **Length:** 7m

Width: 3.2m **Height:** 2.6m **Weight:** 30t **Max speed:** 70km/h
Range (on road): 450km **Crew:** 3



General Dynamics European Land Systems ► ASCOD MMBT

GDELS unveiled the ASCOD Medium Main Battle Tank (MMBT), a 120mm-armed 42 tonne tank based on its tracked ASCOD IFV, at Eurosatory 2018. The ASCOD MMBT is based on the new modular Common Base Platform (CBP) developed for the British Army's Ajax reconnaissance vehicle project. It also marketed by Israeli company Elbit Systems as part of its Sabrah family of light tanks. **Weight:** 42t **Crew:** 4



General Dynamics Land Systems ► GDLS MPF Prototype

General Dynamics Land Systems (GDLS) is one of two companies that has been downselected to produce 12 prototype light tanks for the US Army's Mobile Protected Firepower (MPF) programme. Photographs of the GDLS prototype emerged in April 2020, but few technical details have been disclosed. It appears to be based upon a similar hull design as used for the ASCOD, Ajax and Griffin III platforms and can be armed with either a 105mm or 120mm main gun. The US Army plans to acquire up to 504 vehicles under the MPF programme, with the contract expected to be awarded in FY2022. **Crew:** 4



General Dynamics Land Systems ► M1A2 Abrams

Since 1992, the US Army has been upgrading its 120mm-armed M1A1 tracked MBTs to the M1A2 model. The latest production standard is the M1A2 System Enhancement Package v3, now known as the M1A2C, which incorporates a new armour layout, an ammunition data link to enable the firing of smart 120mm rounds, an auxiliary power unit and several upgrades to the electronic architecture. The first example of the M1A2C was delivered in October 2017 and the US Army plans to eventually field 1,500 M1A2Cs. The platform is expected to remain in service with the US Army's armour brigade combat teams until around 2050. The M1A2 variant has also been exported to Kuwait and Saudi Arabia. **Length:** 9.83m **Width:** 3.66m **Height:** 2.88m **Ground clearance:** 0.48m **Weight:** 63t **Max speed:** 68km/h **Range (on road):** 426km **Crew:** 4



General Dynamics Land Systems ► M1A2 SEPv3

The M1A2 System Enhancement Package 3 (M1A2 SEPv3) is the latest production-standard variant of the Abrams MBT. Designed primarily to address the SWaP issues encountered with the M1A2 SEPv2, the M1A2 SEPv3 introduces a new electronic architecture, simplified maintenance procedures and a new auxiliary power unit. In order to improve lethality and survivability, it also features additional frontal armour and a data link to enable the firing of smart, multipurpose projectiles from its 120mm smoothbore gun. The M1A2 SEPv3 is intended to become the new frontline tank for the US Army, which has awarded GDLS a contract to convert up to 435 M1A1 tanks to this standard. **Length:** 9.83m **Width:** 3.66m **Height:** 2.88m **Ground clearance:** 0.48m **Weight:** 66.8t **Max speed:** 68km/h **Range (on road):** 426km **Crew:** 4



Hanwha Defense ► K21-105 Light Tank

At IDEX 2013, Doosan and John Cockerill Defense presented the K21-105 Light Tank concept which integrates the Cockerill 105mm-armed XC-8 turret on the Doosan K21 IFV chassis. The K21 was developed by Doosan to meet the requirements of the Republic of Korea Army. Additionally, the new vehicle has been developed as a private venture and there are no orders as of early 2018. **Ground clearance:** 0.46m **Weight:** 25t **Max speed:** 70km/h **Range (on road):** 450km **Crew:** 3



Heavy Industries Taxila ► Al-Khalid/Al-Khalid-I

In 1990, China and Pakistan agreed to jointly develop a new MBT which would be manufactured by HIT for the Pakistan Army. The Al-Khalid is a further development of the Norinco MBT-2000 export MBT. The first pre-production Al-Khalid was delivered to the Pakistan Army in 2001 and 310 had been delivered by the end of 2015. **Length:** 10.07m **Width:** 3.5m **Height:** 2.4m **Weight:** 46t **Max speed:** 72km/h **Range (on road):** 500km **Crew:** 3



Heavy Industries Taxila ► Al-Zarrar

The 125mm-armed Al-Zarrar MBT is a modernised version of the Pakistan Army's Norinco 100mm-armed Type 59 which was based on the Soviet T-54A. In 1990, the army decided it could not afford to replace its approximately 1,100 Type 59s and HIT was directed to launch an upgrade project. The first of 320 Al-Zarrars was delivered to the army in 2004. Despite negotiations to upgrade Bangladesh's fleet of T-59s, there had been no export sales of the Al-Zarrar by early 2018. **Length:** 9.5m **Width:** 3.3m **Height:** 2.5m **Weight:** 44t **Max speed:** 65km/h **Range (on road):** 450km **Crew:** 4



Heavy Vehicle Factory ► Arjun

The 120mm-armed Arjun MBT was developed by India's Defence Research and Development Organisation (DRDO) to meet the requirements of the Indian Army. Although development began in 1972, it was not until 2004 that the first of 124 Arjuns ordered in 2000 was delivered. A contract for the production of an improved variant, the Arjun Mk 1A, was announced by the Indian government in September 2021. This was expected to act as an interim to the Arjun Mk II, but there are indications that the Mk II may no longer be required.

Length: 10.2m **Width:** 3.8m **Height:** 2.3m **Ground clearance:** 0.45m **Weight:** 62t **Max speed:** 72km/h **Range (on road):** 450km **Crew:** 4



Hyundai Rotem ► K2

Hyundai Rotem has developed the K2 'Black Panther' MBT since 1993 to meet the requirements of the Republic of Korea Army. A total of 600 are expected to be ordered in several batches to replace legacy M48 tanks. Equipped with a locally developed 120mm/55 cal smoothbore gun and an automatic loader, the K2 is manned by a crew of three. Deliveries of the first batch of 100 tanks began in 2014, but problems with developing an indigenous engine and transmission have delayed delivery of the second batch. **Length:** 10.8m **Width:** 3.6m **Height:** 2.4m **Ground clearance:** 0.45m **Weight:** 55t **Max speed:** 70km/h **Range (on road):** 450km **Crew:** 3



Israel Defense Forces ► Merkava Mk 4

The Israel Defense Forces revealed development of the 120mm-armed Merkava Mk 4 MBT in 2002. It builds on the experience of the Tank Administration (MANTAK) in developing and producing the Merkava Mk 1, 2 and 3, and as with earlier models, survivability is accorded a high priority. **Length:** 9m **Width:** 3.7m **Height:** 2.7m **Ground clearance:** 0.45m **Weight:** 65t **Max speed:** 64km/h **Range (on road):** 500km **Crew:** 4



Kharkiv Morozov Machine Building Design Bureau ► BM Bulat

The BM Bulat is a modernisation package for the 125mm-armed T-64 MBT, which Kharkiv developed from its experience as one of the original producers of the T-64 for the Soviet Army. Ukraine is believed to have upgraded about 100 of its T-64Bs to the BM Bulat configuration since 2004. **Length:** 9.22m **Width:** 3.42m **Height:** 2.17m **Ground clearance:** 0.5m **Weight:** 45t **Max speed:** 70km/h **Range (on road):** 385km **Crew:** 3



Kharkiv Morozov Machine Building Design Bureau ► BM Oplot

The T-84 Oplot is a development by Ukraine's Kharkiv Morozov Machine Building Design Bureau of the Soviet T-80UD to meet the requirements of the Armed Forces of Ukraine. The T-84 entered Ukrainian service in 1999 and was followed by the more advanced T-84 Oplot-M, or BM Oplot, in 2001. **Length:** 9.7m **Width:** 4.1m **Height:** 2.8m **Ground clearance:** 0.5m **Weight:** 51t **Max speed:** 70km/h **Range (on road):** 400km **Crew:** 3



Kharkiv Morozov Machine Building Design Bureau ► T-55AGM

The Soviet Union produced about 35,000 T-54-series MBTs from 1946-58 and 27,500 T-55-series MBTs from 1955-81, with additional tanks built under licence in China (as the Type 59), Czechoslovakia and Poland. Many Soviet T-54/-55s were originally built by KMDB and the company has developed the comprehensive T-55AGM upgrade package for T-54, T-55, Type 59 and T-62 tanks, which improves the tank's firepower, protection and mobility. **Length:** 6.45m **Width:** 3.37m **Height:** 2.4m **Ground clearance:** 0.42m **Weight:** 46t **Max speed:** 65km/h **Range (on road):** 400km **Crew:** 3



Kharkiv Morozov Machine Building Design Bureau ► Yatagan

The Yatagan tank, sometimes referred to as the T-84-120, is an improved T-84 armed with a NATO-standard 120mm smoothbore gun developed by KMDB for the export market. The Yatagan was unveiled in 2000. There have been no orders as of early 2018. **Length:** 9.72m **Width:** 3.77m **Height:** 2.74m **Ground clearance:** 0.52m **Weight:** 48t **Max speed:** 70km/h **Range (on road):** 500km **Crew:** 3



KNDS ► EMBT

KNDS (KMW + NEXTER Defense Systems) presented its first joint product, the EMBT (European Main Battle Tank) demonstrator, at the June 2018 Eurosatory defence exhibition. The EMBT mounts the 120mm-armed turret of the Nexter Leclerc MBT on the hull of the KMW Leopard 2 MBT. **Crew:** 3



Krauss-Maffei Wegmann ► Leopard 2A7

The Leopard 2A7 is the current production standard of the successful 120mm-armed Leopard 2 MBT series. In April 2013, Qatar bought 62 new Leopard 2A7Q models, which have all been delivered, and KMW continues to upgrade older Leopard 2s to the Leopard 2A7V standard for the German Army. **Length:** 10.97m **Width:** 4m **Height:** 2.64m **Ground clearance:** 0.53m **Weight:** 67.5t **Max speed:** 70km/h **Range (on road):** 450km **Crew:** 4



Leonardo ► M60A3 Upgrade

Leonardo presented its M60A3 upgrade proposal, which improves the tank's firepower, protection and mobility, for the first time at the Bahrain International Defence Exhibition and Conference in mid-October 2017. Although the General Dynamics Land Systems M60 was phased out of US service in the early 1990s, the MBT continues to be used by almost 20 countries. This includes Egypt, which owns an estimated 300 M60A1s and 850 M60A3s, and Bahrain, which has 180 M60A3s.

Crew: 4



Mitsubishi Heavy Industries ► Type 10

Mitsubishi developed the 120mm-armed Type 10 MBT to meet the requirements of the Japan Ground Self-Defense Force (JGSDF) and publicly revealed a prototype in February 2008. The Type 10 entered service in January 2012 and more than 100 had been built by late 2017. The JGSDF is expected to receive 255-300 Type 10 tanks in total. **Length:** 9.42m **Width:** 3.24m **Height:** 2.3m **Weight:** 44t **Max speed:** 70km/h **Range (on road):** 500km **Crew:** 3



Mitsubishi Heavy Industries ► Type 16 MCV

The Type 16 Manoeuvre Combat Vehicle (MCV), formerly known as the Mobile Combat Vehicle, was developed by Mitsubishi Heavy Industries (MHI) to meet a Japan Ground Self-Defense Force (JGSDF) requirement for an 8x8 105mm-armed armoured vehicle that can be more easily deployed by air, land or sea than an MBT. Deployed with Japan's Mobile Divisions, the Type 16 MCV allows the JGSDF to rapidly respond to any potential enemy invasion, as it has sufficient tactical and operational mobility to operate in rural areas and on Japanese islands. The JGSDF plans to acquire 300 Type 16 MCVs to replace the legacy Type 74 MBT. **Length:** 8.45m **Width:** 2.98m **Height:** 2.87m **Weight:** 26t **Max speed:** 100km/h **Range (on road):** 400km **Crew:** 4



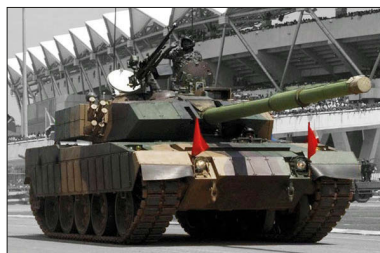
Norinco ► ST1

The ST1 Wheeled Tank Destroying Vehicle is a 105mm-armed 8x8 mobile gun system developed by Norinco for the export market. It is a derivative of the ZTL-11 which the company produced for the People's Liberation Army. The ST1 was unveiled at Airshow China in November 2014. **Length:** 8.8m **Width:** 3m **Height:** 3.17m **Weight:** 24t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 4



Norinco ► Type 59G

The Type 59G is an upgraded variant of the Chinese Type 59 MBT that replaces the original 100mm gun with either a lengthened 105mm gun or a new 125mm smoothbore gun. In addition to the new armament, the upgrade also includes a modern fire control system, a new ERA armour package and a more powerful engine. This upgrade is marketed at armed forces who maintain large numbers of legacy Type 59 tanks in service or those that desire a cheaper MBT than those offered by many Western manufacturers. **Weight:** 40.5t **Max speed:** 57km/h **Range (on road):** 450km **Crew:** 4



Norinco ► Type 96/ZTZ-96/VT2

The Type 96 (also known as the ZTZ-96, Type 88C or its export designation VT2) is a second-generation MBT that forms the backbone of the Chinese People's Liberation Army MBT fleet. Though it shares many design elements with previous Chinese MBTs, it also features a 125mm smoothbore cannon mounted in a new welded turret and an advanced fire control system. Since its introduction into service in 1996, the Type 96 has been upgraded to the Type 96A and Type 96B standards through the addition of extra armor, a more powerful engine and new sensor subsystems. **Weight:** 42.8t **Max speed:** 57km/h **Crew:** 3



Norinco ► Type 99/ZTZ-99

The ZTZ-99 (also known as Type 99) third-generation MBT was first publicly unveiled during a military parade held in October 1999. Resembling the Soviet T-72 MBT, it features enhanced firepower, protection and mobility compared to previous Chinese MBTs thanks to a 125mm automatically loaded ZPT-98 smoothbore gun capable of firing laser-guided ATGMs, an advanced modular armour package and a 1,200hp diesel engine. An improved variant, the ZTZ-99A, introduces an ERA array for greater protection against tandem HEAT warheads and a digital battle management system, making it China's first networked MBT. Unlike previous generations of Chinese MBTs, the ZTZ-99 and ZTZ-99A are believed to have been procured in relatively small numbers by the PLA due to their substantial cost. **Length:** 10.92m **Width:** 3.37m **Height:** 2.4m **Ground clearance:** 0.47m **Weight:** 50t **Max speed:** 65km/h **Range (on road):** 500km **Crew:** 3



Norinco ► VT2

The 125mm-armed VT2 tracked MBT, which was unveiled at DSA 2012, is the export version of the People's Liberation Army Type 96A. As of early 2018, there have been no confirmed orders for the VT2. **Length:** 10.49m **Width:** 3.48m **Height:** 2.34m **Weight:** 42.6t **Max speed:** 57km/h **Range (on road):** 500km **Crew:** 3



Norinco ► VT4 (MBT-3000)

The 125mm-armed VT4, also known as the MBT-3000, is the latest MBT developed and manufactured by Norinco. Displayed internationally for the first time at Eurosatory in June 2012, Norinco officials describe the VT4 as the most advanced tank offered by the company. **Length:** 10.1m **Width:** 3.5m **Height:** 2.4m **Weight:** 52t **Max speed:** 67km/h **Range (on road):** 500km **Crew:** 3



Norinco ► ZTD-05/VN16

The ZTD-05 is a fire support variant of the Chinese ZBD-05 tracked amphibious infantry fighting vehicle (IFV). Designed to provide direct fire support during ship-to-shore operations, it is based upon the same fully amphibious hull as the ZBD-05 but features a larger two-person turret armed with a 105mm gun. Like its IFV counterpart, the ZTD-05 has entered service with the Chinese PLA Navy Marine Corps (PLANMC) and is also offered for export by Norinco as the VN16. **Max speed:** 65km/h **Range (on road):** 500km **Crew:** 4



Norinco ► ZTL-11

The ZTL-11 (also sometimes referred to as the ZTL-09) is a wheeled armoured assault vehicle based upon the hull of the ZBD-09 8x8 IFV. Developed by Norinco for the Chinese People's Liberation Army (PLA), it is armed with a 105mm gun in a turret that closely resembles the design of that mounted on the ZTD-05 tracked amphibious assault vehicle. An unknown number of these vehicles has been produced for the PLA, and Norinco has also developed a similar 105mm-armed vehicle for export known as the ST1. This is based upon the hull of the VN1 8x8, but features a different turret compared to the ZTL-11. **Crew:** 3



Norinco ► ZTQ-15/VT5

Norinco unveiled its VT5 tracked medium tank, developed specifically for the export market, at the Zhuhai Airshow in October 2016. Weighing between 33-36t, depending upon the armour package fitted, the VT5 is designed for use on terrain where conventional 50-70t MBTs cannot easily operate. A domestic version of this design, designated ZTQ-15, has entered service with Chinese PLA units operating in China's Southern Theatre Command and the mountainous terrain in Tibet. **Length:** 9.2m **Width:** 3.3m **Height:** 2.5m **Weight:** 36t **Max speed:** 70km/h **Range (on road):** 450km **Crew:** 3



Otokar ► Tulpar Light Tank

Otokar unveiled its tracked Tulpar Light Tank, which mounts CMI's Cockerill 3105 turret on Otokar's Tulpar IFV chassis, at the June 2018 Eurosatory exhibition. The company developed the tank in cooperation with CMI for the export market. **Max speed:** 75km/h **Range (on road):** 600km **Crew:** 3



Raytheon ► M60A3 SLEP

Although the General Dynamics Land Systems M60 was phased out of US service in the early 1990s, the MBT continues to be used by almost 20 countries, including Egypt which operates an estimated 300 M60A1s and 850 M60A3s. With the support of the US Army, Raytheon has developed a Service Life Extension Program (SLEP) for the M60A3, which it began marketing in May 2016. **Weight:** 58t **Max speed:** 48km/h **Crew:** 4



Rheinmetall Landsysteme ► MBT Advanced Technology Demonstrator

The Leopard 2 was developed jointly by KMW and Rheinmetall in the 1970s to meet German Army requirements, with production split between the two companies. At Eurosatory 2010, Rheinmetall unveiled the MBT Revolution (renamed the MBT Advanced Technology Demonstrator in 2016) upgrade package for the Leopard 2A4, developed as a private venture for export. Indonesia was the first customer for the upgrade package. **Length:** 9.7m **Width:** 3.7m **Height:** 2.5m **Ground clearance:** 0.44m **Weight:** 60t **Max speed:** 70km/h **Range (on road):** 500km **Crew:** 4



Romarm ▶ TR-85-M1

The 100mm-armed TR-85-M1 is a modernised version of the TR-85, a Romanian-built version of the Soviet T-55 tank. The TR-85 was produced from 1986-90, and in 1994, the Romanian Army launched a project to modernise its TR-85 fleet to the TR-85-M1 standard using Western components. About 54 tanks had been modernised by 2017. Additionally, there are no export customers for the modernisation package. **Length:** 9.96m **Width:** 3.44m **Height:** 3.1m **Weight:** 50t **Max speed:** 60km/h **Range (on road):** 310km **Crew:** 4



UralVagonZavod ▶ BMPT

UVZ developed the BMPT Fire Support Combat Vehicle, nicknamed Terminator by the company, after studying the Russian Army's performance during the Chechen War. Designed to support tank operations in urban environments, the BMPT is armed with two 30mm cannons, two 30mm automatic grenade launchers, four ATGM launchers and one 7.62mm machine gun. It enables the vehicle to engage a wide spectrum of targets, including infantry fighting vehicles, fortified defensive positions and low-flying, low-speed targets such as helicopters. **Length:** 7.19m **Width:** 3.8m **Height:** 1.94m **Weight:** 48t **Max speed:** 65km/h **Range (on road):** 550km **Crew:** 5



UralVagonZavod ▶ BMPT-72

The BMPT-72 Fire Support Combat Vehicle is a development of the original BMPT vehicle intended for export customers which operate the T-72 MBT. It is an upgrade package which mounts the BMPT turret on a customer's existing T-72 chassis, rather than a new-build vehicle. UVZ unveiled the BMPT-72 Terminator 2 at the September 2013 Russian Arms Expo. **Length:** 7.2m **Width:** 3.6m **Height:** 3.3m **Ground clearance:** 0.49m **Weight:** 44t **Max speed:** 60km/h **Range (on road):** 500km **Crew:** 3



UralVagonZavod ▶ T-14 Armata

The 125mm-armed T-14 Armata is the latest MBT to be developed for the Russian Army. In late 2013, UVZ began trials of early prototype/pre-production models that were publicly shown for the first time in the Victory Day parade in Moscow in 2015. The Russian MoD said in 2015 that it intended to acquire 2,300 Armatas by 2020. However, in August 2017, the Russian Army said that it would give immediate priority to modernising its T-80 and T-90 MBTs. An estimated 20 T-14s have been built for trials. **Length:** 10.44m **Width:** 3.82m **Height:** 3.22m **Weight:** 55t **Max speed:** 75km/h **Range (on road):** 600km **Crew:** 3



UralVagonZavod ▶ T-72B3

Due to delays with the mass production of the T-14 Armata MBT, the Russian Army elected to fund continued upgrades for its vast inventory of legacy tanks. The T-72B3 arose from this modernisation initiative and is designed to provide a cost-effective upgrade package for Russia's T-72B/T-72B1 MBT fleet. Incorporating significant improvements in firepower, protection and mobility, the T-72B3 aims to extend the service lives of these tanks for several decades. Further upgrades to the standard T-72B3 led to the introduction of the T-72B3M, also known unofficially as the T-72B3M. **Length:** 9.53m **Width:** 3.46m **Height:** 2.2m **Weight:** 46t **Max speed:** 65km/h **Range (on road):** 500km **Crew:** 3



UralVagonZavod ▶ T-72M1 Modernised

The T-72M1 Modernised is the latest export standard of the widely deployed Russian T-72 MBT series, of which more than 25,000 have been produced since 1971 for users in more than 40 countries. Leveraging work that UVZ has done on the T-90 series provides the T-72M1 Modernised model with improved firepower, protection and mobility. Customers can select which elements of the modernisation package they require. **Length:** 9.53m **Width:** 3.78m **Height:** 2.23m **Ground clearance:** 0.49m **Weight:** 46t **Max speed:** 60km/h **Range (on road):** 550km **Crew:** 3



UralVagonZavod ▶ T-80BVM

Due to delays encountered with the T-14 Armata tank programme, the Russian Army is modernising its existing tank fleets in an effort to extend the service life of their legacy tanks into the following decades. The T-80BVM is one such upgrade programme that has been developed to improve the firepower, protection and mobility of the T-80BV tanks originally produced by the Soviet Union between 1985 and 1991. **Length:** 9.56m **Width:** 3.38m **Height:** 2.22m **Ground clearance:** 0.38m **Weight:** 46t **Max speed:** 80km/h **Range (on road):** 500km **Crew:** 3



UralVagonZavod ▶ T-90

Developed in the late 1980s, the T-90 MBT is a modernised version of the Russian Army's T-72 which incorporates elements of the more expensive T-80. Armed with a 125mm gun and equipped with Kontakt-5 ERA, as well as a day/night sight, it offers greater survivability and situational awareness than its predecessor. Approximately 500 T-90s and T-90As were produced for the Russian Army, while the T-90S export model has been sold to Algeria, Azerbaijan, Iraq, Turkmenistan, Uganda, Vietnam and India, where it is manufactured under licence. In August 2017, the Russian Army announced that it would focus on modernising the T-90 and other MBTs in service in preference to accelerating the acquisition of new-generation vehicles. As a result of this decision, the Russian Army is procuring the T-90M, which sports a new gun, ERA array, fire control system, engine and radio suite. **Length:** 9.53m **Width:** 3.78m **Height:** 2.23m **Ground clearance:** 0.49m **Weight:** 46.5t **Max speed:** 60km/h **Range (on road):** 550km **Crew:** 3



Volgograd Machine-Building Company (VGIZ) ▶ 2S25 Sprut-SDM1

The 2S25 Sprut-SDM1 is a 125mm-armed tracked self-propelled antitank gun developed to meet the requirements of the Russian Army's Air Assault Forces (VDV). It is a further development of the 2S25 Sprut-SD, of which only 30 were built before the project was cancelled for budgetary reasons in 2010. The new vehicle was first publicly shown in 2016. **Length:** 9.77m **Width:** 3.15m **Height:** 3.05m **Ground clearance:** 0.5m **Weight:** 18t **Max speed:** 70km/h **Range (on road):** 500km **Crew:** 3





SPECIFICATIONS

APCs AND IFVs

This section provides a guide to tracked and wheeled armoured personnel carriers (APCs) and infantry fighting vehicles (IFVs) that are under development, in production or being substantially modernised. The primary variant of each vehicle is described.

The specifications listed here are intended to provide a handy reference source for the basic parameters that describe the vehicle's performance. Most data has been supplied by the manufacturers, who can give more detailed information on request.

Entries are listed alphabetically by company.

If you think your product should be listed, please contact the team at insight@shephardmedia.com to ensure it appears in the *Shephard Defence Insight* online database (shephardmedia.com/defenceinsight) and is included in the next handbook edition.

ABOVE: An M113 APC in use with US Army OPFOR troops during Exercise *Allied Spirit*. (Photo: Canadian Armed Forces)

4x4 APCs/IFVs ▶ 140 Repair Plant ▶ Cayman ARV

The Cayman ARV (Armoured Reconnaissance Vehicle) was developed by the Belarusian 140th Repair Plant as a replacement for its legacy fleet of Soviet-era BDRM-2 vehicles. It is a 4x4 amphibious vehicle that can carry a total of six people and support an RWS. The platform is also offered for export and can be customised with optional equipment to suit a variety of roles and user requirements. This includes reconnaissance, patrols and even police operations. **Length:** 6m **Width:** 2.82m **Height:** 2.07m **Ground clearance:** 0.49m **Weight:** 7t **Max speed:** 110km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 4

**Achleitner Fahrzeugbau** ▶ HMV Survivor I

Achleitner developed the High Mobility Vehicle (HMV) Survivor I to meet the requirements of military, paramilitary and law enforcement agencies for a high-mobility, modular 4x4 armoured vehicle with protection against ballistic threats (up to STANAG 4569 Level 2) and mines/IEDs (up to STANAG 4569 Level 2). Survivor I is available in various configurations, including personnel carrier, reconnaissance, border patrol, command, communications and ambulance. **Length:** 5.55m **Width:** 2.35m **Height:** 2.35m **Ground clearance:** 0.42m **Weight:** 12t **Max speed:** 100km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 8

**Achleitner Fahrzeugbau/Rheinmetall MAN Military Vehicles** ▶ Survivor R

The Survivor R 4x4, unveiled at Eurosatory in June 2014, was jointly developed by Rheinmetall MAN Military Vehicles and Achleitner. Based on a comprehensively militarised MAN TGM truck chassis and automotives, the Survivor R uses only series-produced components to reduce costs. Automotive support can be provided by MAN's worldwide network of dealerships. **Length:** 6.5m **Width:** 2.9m **Height:** 2.7m **Ground clearance:** 0.4m **Weight:** 15t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 10



Al Tadrea Manufacturing Company ► Storm I

Storm I is a 4x4 armoured combat vehicle developed by Al Tadrea Manufacturing Company (TMC), Saudi Arabia. It is 5.9m long, 2.3m wide, 2.3m high and has a ground clearance of 360mm. The vehicle weighs 8,200kg, has a maximum speed of 120km/h and can carry up to 5 people, including 2 crew members. **Length:** 5.96m **Width:** 2.34m **Height:** 2.3m **Ground clearance:** 0.36m **Weight:** 9.8t **Max speed:** 120km/h **Crew:** 2 **Passengers:** 3



Al Tadrea Manufacturing Company ► Storm II

Storm II is an armoured combat vehicle developed by Al Tadrea Manufacturing Company (TMC), Saudi Arabia. It is 5.9m long, 2.3m wide, 2.3m high and has a ground clearance of 360mm. It weighs 8.5t with a maximum speed of 120km/h and 200hp. The vehicle can carry up to 5 people, including 2 crew members. **Length:** 5.96m **Width:** 2.34m **Height:** 2.3m **Ground clearance:** 0.36m **Weight:** 8.5t **Max speed:** 120km/h **Crew:** 2 **Passengers:** 3



Al Tadrea Manufacturing Company ► Storm XL

Storm XL is an armoured combat vehicle developed by Al Tadrea Manufacturing Company (TMC), Saudi Arabia. It is 7.8m long, 2.5m wide, 2.4m high and has a ground clearance of 350mm. It weighs 10t with a maximum speed of 120km/h and 330hp. The vehicle can carry up to 7 people, including 2 crew members. **Length:** 7.85m **Width:** 2.5m **Height:** 2.5m **Ground clearance:** 0.35m **Weight:** 10t **Max speed:** 120km/h **Crew:** 2 **Passengers:** 5



AM General ▶ NXT 360/NXT 360 ES

The NXT 360 light tactical vehicle is intended to address the need for greater protection, increased payload potential and improved tactical mobility desired by users of the ubiquitous HMMWV. Leveraging the chassis and several design features from the original HMMWV, the platform offers a high degree of commonality and simplified maintenance for users of the existing HMMWV. Offered in a standard variant and an NXT 360 ES version with an uprated suspension and increased payload, the platform can be procured as either a new vehicle or as a retrofit package for current HMMWV users. **Ground clearance:** 0.44m **Weight:** 7.03t **Max speed:** 160km/h **Range (on road):** 402km **Crew:** 2 **Passengers:** 4



AMZ-KUTNO ▶ Tur V

First unveiled in 2015, the Tur V is the latest iteration of the Tur (Aurochs) series of 4x4 APCs. Intended as a replacement for the Polish Army's fleet of HMMWVs, the Tur offers improved protection against small arms fire, mines and IEDs for five soldiers and a 2,000kg payload. Although the Tur has had a strong presence at international defence exhibitions, no orders are known to have been received. **Length:** 5.85m **Width:** 2.55m **Height:** 2.46m **Weight:** 9t **Max speed:** 110km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 3



AMZ-KUTNO ▶ Żubr

The Żubr (Wisent) is a 4x4 APC based upon the licence-produced Iveco Eurocargo commercial truck chassis. It is available in several variants other than the conventional mine-protected APC version, including the Żubr MMSR (a carrier for an N-26 air surveillance radar), the Żubr P (a platform for the Poprad air defence system) and the Żubr WD (a command post). Since the public debut of the first prototype in 2008, the Żubr has been procured in limited numbers by the Polish Armed Forces and has also been offered for export, although no foreign orders have been announced. **Length:** 7.45m **Width:** 2.48m **Height:** 2.72m **Weight:** 15t **Max speed:** 100km/h **Range (on road):** 966km **Crew:** 2 **Passengers:** 10



Armored Vehicles & Heavy Equipment Factory ► Al Shibl 1

The Al Shibl ('Lion Cub') series of light 4x4 armoured vehicles is produced by the Saudi Arabian Armoured Vehicles and Heavy Equipment Factory. Based on the ubiquitous Toyota Land Cruiser chassis, the Al Shibl family is primarily aimed at Middle Eastern customers, where the popularity of the Land Cruiser is such that there already exists an extensive support and maintenance network. Produced in short and long wheelbase variants (Al Shibl 1 and Al Shibl 2 respectively), this vehicle can be armed with various weapons and configured to suit different customer requirements. **Length:** 3.94m **Width:** 1.76m **Height:** 2.51m **Ground clearance:** 0.33m **Weight:** 3.6t **Max speed:** 120km/h **Crew:** 3 **Passengers:** 0



Armoured Vehicles and Heavy Equipment Factory ► Al Shibl 2

The Al Shibl ('Lion Cub') series of light 4x4 armoured vehicles is produced by the Saudi Arabian Armoured Vehicles and Heavy Equipment Factory. Based on the ubiquitous Toyota Land Cruiser chassis, the Al Shibl family is primarily aimed at Middle Eastern customers, where the popularity of the Land Cruiser is such that there already exists an extensive support and maintenance network. Produced in short and long wheelbase variants (Al Shibl 1 and Al Shibl 2 respectively), this vehicle can be armed with various weapons and configured to suit different customer requirements. **Length:** 5.01m **Width:** 1.76m **Height:** 2.58m **Ground clearance:** 0.33m **Weight:** 4.6t **Max speed:** 120km/h **Crew:** 2 **Passengers:** 6



Arqus/Mack Defense ► Bastion

ACMAT (now Arqus) unveiled the 4x4 Bastion armoured personnel carrier at Eurosatory 2010 and the Bastion HM (High Mobility) version at Eurosatory 2012. The Bastion is based on the all-welded steel chassis of ACMAT's VLRA TDN-TDE tactical truck series, and a large number of components are interchangeable with the VLRA (Véhicule de Liaison de Reconnaissance et d'Appui) and ALTV (ACMAT Light Tactical Vehicle). **Length:** 6m **Width:** 2.2m **Height:** 2.4m **Ground clearance:** 0.33m **Weight:** 12t **Max speed:** 110km/h **Range (on road):** 1,400km **Crew:** 2 **Passengers:** 8



Arquus/Mack Defense ► Fortress

Formerly known as the Bastion HM, the Fortress is a 4x4 armoured personnel carrier (APC) based upon the Acmat VLRA 2 chassis. Designed to provide a high level of mobility, protection and endurance, the Fortress is available in two major variants: APC and Logistics, of which the latter replaces the troop compartment with a cargo flatbed. A plethora of optional equipment can also be installed on the Fortress to suit various customer requirements concerning firepower, protection and mobility. **Length:** 6.3m **Width:** 2.3m **Height:** 2.6m **Ground clearance:** 0.42m **Weight:** 14.5t **Max speed:** 120km/h **Range (on road):** 1,200km **Crew:** 2 **Passengers:** 8



Arquus/Mack Defense ► Sherpa Light

The Sherpa Light is a three-door variant of Renault's Sherpa tactical vehicle series designed to carry up to ten soldiers and their equipment. It can be armed with various pintle-mounted weapons or a remote-controlled weapon station. The Sherpa Light has modular and scalable ballistic protection according to CEN 1063 and STANAG 4569. The vehicle is air-transportable by C-130/A400M aircraft. As of mid-May 2020, 1,000 Sherpas of all variants had been produced. **Length:** 6m **Width:** 2.3m **Height:** 2.4m **Ground clearance:** 0.34m **Weight:** 11t **Max speed:** 110km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 8



Ashok Leyland ► LBPV

The Ashok Leyland Light Bulletproof Vehicle (LBPV) is based on Lockheed Martin's Common Vehicle Next Generation (CVNG) 4x4 armoured vehicle platform, though it features several adaptations to make it suitable for production in India. Designed to meet the requirements of the Indian Air Force for a lightly armoured patrol vehicle, it can carry up to six personnel as well as additional cargo on its rear load platform. **Weight:** 6t **Crew:** 2 **Passengers:** 4



Aurum Security ▶ A200

The A200 is a lightly armoured 4x4 vehicle based on a modified commercially available Toyota Land Cruiser 200 chassis. Capable of seating up to nine personnel, the vehicle can be armed with a heavy machine gun in a roof-mounted protected weapon station. **Length:** 5.15m **Width:** 2.06m **Height:** 2.32m **Ground clearance:** 0.35m **Weight:** 5.6t **Max speed:** 110km/h **Range (on road):** 750km **Crew:** 2 **Passengers:** 7



Avibras Indústria Aeroespacial ▶ AV-VBL

Avibras developed the 4x4 AV-VBL (Avibras Viatura Blindada Leve) based on experience building ASTROS II multiple rocket launchers and armoured transport vehicles for the Brazilian Army and other customers. The AV-VBL mounts an armoured hull on a lengthened Mercedes-Benz Unimog chassis. **Length:** 7.2m **Width:** 2.7m **Weight:** 11.6t **Max speed:** 110km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 10



Avibras Indústria Aeroespacial ▶ Tupi

Developed by Avibras and Renault, Tupi is a 4x4 armoured vehicle based on the Renault Sherpa Light Scout vehicle. It was aimed to meet the requirements of Brazil's VBMT-LR programme, part of the army's Guarani Strategic project, including 4x4 multipurpose light armoured vehicles. **Length:** 5.5m **Width:** 2.3m **Height:** 2.1m **Weight:** 8t **Max speed:** 100km/h **Range (on road):** 0.8km **Crew:** 2 **Passengers:** 3



B-Arms ► BRDM-2MB Bekas

The Bekas BRDM-2MB is the upgraded version of the Soviet-era BRDM-2 armoured reconnaissance and patrol vehicle.

Manufactured by Russian weapons company B Arms, the vehicle is powered by a 136hp diesel engine and can carry three crew members and two passengers. Its other features include 6mm appliqué armour plates, anti-blast seats, a mine-protected floor, air conditioning, an advanced braking system and a situational awareness system. The platform also comes equipped with the KPVT 14.5 mm heavy machine gun and Kalashnikov PKT medium machine gun in a protected turret, both of which were present in the previous version as well. **Ground clearance:** 0.33m **Max speed:** 100km/h **Range (on road):** 1,500km **Crew:** 3 **Passengers:** 2



Blindex ► Titan

Blindex developed the Titan series of APCs to provide the Colombian Army with an affordable means of transporting large numbers of troops for internal security operations. Based on commercially available 4x4 truck chassis, the vehicles provide protection against small arms fire and IEDs for up to 20 passengers. Three different versions of the Titan have been developed, comprising the Titan-A, B and C, though they differ only in minor details. **Max speed:** 100km/h **Range (on road):** 900km **Crew:** 3 **Passengers:** 20



BMC Otomotiv Sanayi ve Ticaret ► Amazon

The Amazon is a 4x4 multipurpose armoured vehicle that leverages technology from the larger BMC Kirpi series of mine-resistant vehicles. Smaller and lighter than the Kirpi, the Amazon is more manoeuvrable than its predecessor and better suited to operating within the narrow streets typical of urban areas. However, its V-shaped hull still provides a high degree of blast protection. Up to seven personnel and an RWS can be accommodated in the standard APC version. Additional mission equipment can also be installed to enable it to fulfil more specialised roles such as ambulance, command post or reconnaissance vehicle. **Length:** 5.5m **Width:** 2.5m **Height:** 2.6m **Weight:** 14t **Max speed:** 110km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 5



BMC Otomotiv Sanayi ve Ticaret ► Vuran

A prototype of the Vuran 4x4 multipurpose armoured vehicle was first exhibited in 2009, but the design continued to evolve until 2018 when the production version was unveiled at the Eurosatory exhibition. Originally developed as a private venture to fulfil a range of roles, including APC and weapons carrier, the Vuran features a V-shaped mine-protected hull with sufficient room to accommodate nine personnel and their equipment. Additionally, it can be fitted with a remote weapons station, EO/IR sensors and communications systems to meet different mission requirements. **Weight:** 16t **Max speed:** 100km/h

Range (on road): 600km **Crew:** 2 **Passengers:** 7



Bogdan Motors ► Bars-8

Following on from the 7t Bars-6 4x4 multipurpose armoured vehicle, Bogdan developed the 10t Bars-8 4x4 multipurpose armoured vehicle which was unveiled at the September 2015 Kyiv Arms and Security Expo. The Bars-8 was developed to meet a Ukrainian military requirement for a cheap, reliable vehicle and is also being offered to export customers. **Length:** 6m **Width:** 2.2m **Height:** 2.4m **Ground clearance:** 0.28m

Weight: 10t **Max speed:** 110km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 8



Bruisertech ► Bruiser 112

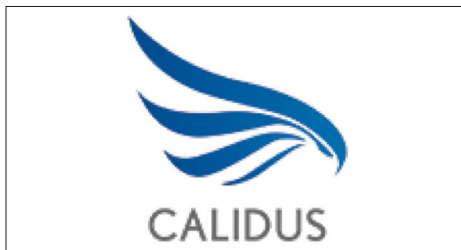
Launched in 2018, Bruiser 112 is the first 4x4 APC developed by South African firm Bruisertech. It features STANAG 4569 Level 1 ballistic protection, STANAG Level 3a/3b blast protection and a maximum payload of 4,500kg. It has been specifically engineered for African customers, with the manufacturer emphasising its low maintenance costs and cost-effectiveness.

Length: 5.82m **Width:** 2.32m **Height:** 2.58m **Ground clearance:** 0.36m **Weight:** 8.5t **Max speed:** 120km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 10



Calidus ► MCAV-20

Calidus unveiled the MCAV-20 4x4 armoured vehicle at IDEX 2021. Resembling a pickup truck in layout, it has a four-door armoured cab in the middle and an open-topped rear cargo area. Little is known regarding its specifications and capabilities, but a remote weapons station can be mounted on the roof of the vehicle.



Chaiseri Metal & Rubber Co ► First Win II

The First Win II 4x4 is a multipurpose mine-protection vehicle (MPV) that is in service with the Royal Thai Army (RTA). The MPV was developed and modified from the First Win I after a request from the RTA. **Length:** 6.2m **Width:** 2.45m **Height:** 2.68m **Ground clearance:** 0.5m **Weight:** 14.5t **Max speed:** 110km/h **Range (on road):** 650km **Crew:** 1 **Passengers:** 9



China South Industries ► CS/VP14 Chana

The CS/VP14 Chana 4x4 MRAP was developed by China South Industries and appears to be aimed at the export market. Intended to be lighter, better protected and more mobile than previous Chinese MRAPs such as the Poly Technologies CS/VP3, it can meet STANAG 4569 Level 3b standards of blast protection and carry up to ten people. **Length:** 7.1m **Width:** 2.6m **Height:** 2.8m **Ground clearance:** 0.42m **Weight:** 13.5t **Max speed:** 120km/h **Crew:** 2 **Passengers:** 8



DCD Protected Mobility ▶ Springbuck

The Springbuck family of APCs was originally developed by Drakensberg Truck Manufacturers specifically to meet the requirements of African customers. Designed for ease of operation, maintenance and repair, it uses internationally available driveline components. Since September 2012, the range has been marketed by DCD Protected Mobility, which offers the vehicle in Springbuck Standard (SD), Heavy Duty (HD) and Xtra Duty (XD) variants, all of which can be carried by C-130 transport aircraft. **Length:** 5.8m **Width:** 2.3m **Height:** 2.7m **Ground clearance:** 0.36m **Weight:** 7.1t **Max speed:** 110km/h **Range (on road):** 750km **Crew:** 2 **Passengers:** 9



Defence Industries Corporation of Nigeria ▶ Ezuwgu

The Ezuwgu is an MRAP 4x4 APC designed and produced by the Defence Industries Corporation of Nigeria (DICON).



Denel Vehicle Systems ▶ RC12 Mk 4

The RC12 was originally developed as an internal security and public order vehicle, but the platform has been effective in other roles, including command applications, tactical rescue, paramilitary APC and surveillance. More than 700 RC12s have been built since 1990 for police, paramilitary and military customers in 14 countries. **Length:** 6.16m **Width:** 2.5m **Height:** 2.8m **Ground clearance:** 0.34m **Weight:** 13t **Max speed:** 100km/h **Range (on road):** 1,000km **Crew:** 1 **Passengers:** 11



Dongfeng Off-road Vehicles Co. ► CSK181

The CSK181 'Mengshi' is a 4x4 armoured vehicle developed to provide protected mobility and fire support to the Chinese PLA's light combined arms brigades. Departing from the earlier CSK131 and CSK141 designs, it features a new chassis and armoured body to offer greater protection, enhanced cross-country performance and more growth potential. The platform can be adapted for different roles and shares many of its features with the CSK182 and the CSZ-181, CTL-181 and CTL-181A family of 6x6 armoured vehicles. **Length:** 5.65m **Width:** 2.38m **Height:** 2.12m **Ground clearance:** 0.4m **Weight:** 8t **Max speed:** 120km/h **Range (on road):** 750km **Crew:** 2 **Passengers:** 8



Dongfeng Off-road Vehicles Co. ► Dongfeng Warrior CSK131

The Dongfeng Warrior CSK131 is an armoured version of the Dongfeng EQ2050 light utility vehicle, which is itself inspired by the American HMMWV. Designed to be used for light-duty general tactical missions and as a combat vehicle for infantry teams, the CSK131 offers a limited degree of protection against ballistic threats and explosions. It can also be equipped with protected weapon stations or RWS armed with either machine guns or automatic grenade launchers. **Length:** 5.8m **Width:** 2.35m **Height:** 1.86m **Weight:** 5.7t **Max speed:** 135km/h **Range (on road):** 500km **Crew:** 1 **Passengers:** 5



Excalibur Army ► T815 Patriot

Excalibur Army introduced the T815 Patriot Medium Armoured Tactical Multi-Mission Vehicle (MATMMV) at the June 2018 Eurosatory exhibition. The first prototype of the company-funded vehicle underwent company trials in 2018. Proposed roles include troop carrier, C2, weapons carrier and EW. A longer wheel base version is planned to expand the vehicle's mission capabilities. **Weight:** 12t **Max speed:** 130km/h **Range (on road):** 500km **Crew:** 3 **Passengers:** 4



Excalibur Army/HSW- Huta Stalowa Wola ► Patriot II

The Patriot II multipurpose 4x4 armoured vehicle is a further development of Excalibur Army's original Patriot. Longer and heavier than its predecessor, the Patriot II is based upon Tatra's Force truck chassis to provide a high degree of cross-country mobility. Able to accommodate a greater payload than the Patriot, it can seat up to eight personnel and is also capable of mounting a remote weapons station armed with a machine gun or 20mm cannon. Designed to be suitable for different roles, the Patriot II can also be configured as an ambulance, C2 vehicle, CBRN reconnaissance platform or weapons carrier for mortars or ATGMs. A version aimed at Polish Army requirements has also been developed in cooperation with HSW. **Length:** 6.25m **Width:** 2.55m **Height:** 2.7m **Ground clearance:** 0.42m **Weight:** 18t **Max speed:** 110km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 6



Fabrika automobila Priboj (FAP) ► BOV OT

The BOV OT (also referred to as BOV M21) is a modernised version of the Yugoslavian BOV family of 4x4 armoured vehicles developed as an upgrade for the Serbian Army's legacy BOV fleet. Though based on the same hull as legacy BOV vehicles, it introduces a new engine and reinforced suspension to improve the vehicle's performance and payload capacity. Up to ten people can be carried inside the vehicle, including its crew of two, and an RWS can be mounted on the roof. **Max speed:** 110km/h **Crew:** 2 **Passengers:** 8



Gaia Automotive Industries ► Amir 4x4

Gaia's Amir family includes 4x4 and 6x6 models which can be configured for various missions, including personnel carrier, reconnaissance, ambulance and logistics. **Length:** 5.6m **Width:** 2.4m **Height:** 2.45m **Ground clearance:** 0.32m **Weight:** 10t **Max speed:** 122km/h **Range (on road):** 0.4km **Crew:** 2 **Passengers:** 10



Gaia Automotive Industries ► Thunder

Thunder is a multipurpose 4x4 armoured vehicle developed to meet the requirements of military and security forces. It can be configured for various missions, including personnel carrier, command, ambulance, rapid intervention and riot control. Ethiopia was the first export customer for the Thunder with an order for 75 vehicles in 2011. The first five were delivered from Israel and the remainder assembled locally. **Length:** 5.66m **Width:** 2.35m **Height:** 2.48m **Ground clearance:** 0.27m **Weight:** 8.7t **Max speed:** 130km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 9



Hanwha Defense ► Barracuda

The Barracuda is one of three copies of the Thyssen-Henschel (now Rheinmetall) TM-170 4x4 armoured vehicle manufactured in South Korea. Marketed by Hanwha Defense, it can be used by military and police forces as an APC and internal security vehicle. Although no Barracudas are believed to have been sold by Hanwha for many years, the vehicle continues to appear in the company's catalogue. **Length:** 6.27m **Width:** 2.48m **Height:** 2.42m **Weight:** 11.7t **Max speed:** 100km/h **Range (on road):** 1,160km **Crew:** 2 **Passengers:** 10



Inbra Terrestre ► Gladiador II

The Gladiador II is a 4x4 multi-purpose armoured vehicle developed by the Brazilian manufacturer Inbra Terrestre, for the country's army and homeland security forces. It is powered by a 186 hp Cummins ISB4.5 diesel engine and a 7+1-speed Allison 2500SP automatic transmission, weighs 9,200 kg and can carry a payload of 1,500 kg. The vehicle is 5.3 m long, 2.3 m wide and 2.2 m high and can carry five personnel. Its maximum speed is 100 km/h, with an estimated range of 500 km. **Length:** 5.3m **Width:** 2.3m **Height:** 2.2m **Weight:** 9.2t **Max speed:** 100km/h **Range (on road):** 500km **Crew:** 2 **Passengers:** 3



International Armored Group ▶ Guardian

IAG's Guardian 4x4 armoured personnel carrier has been designed to carry up to ten fully equipped personnel and their support equipment. While the vehicle is in the light armour category with STANAG 4569 Level 1 ballistic protection as standard, with add-on armour it can provide up to Level 2 multi-hit armour-piercing protection as well as mine/IED blast protection. **Length:** 5.8m **Width:** 2.4m **Height:** 2.4m **Ground clearance:** 0.3m **Weight:** 8t **Max speed:** 120km/h **Range (on road):** 650km **Crew:** 2 **Passengers:** 8



International Armored Group ▶ Guardian Xtreme

The Guardian Xtreme, available in 4x4 and 6x6 configurations, is designed for use by military, government and law enforcement customers. The vehicle has a V-hull to increase mine/IED blast protection and each occupant is provided with a blast attenuation seat. The Guardian Xtreme features baseline STANAG 4569 Level 2 protection, including the engine bay, which can be increased to Level 3 by using add-on lightweight armour. **Length:** 6.4m **Width:** 2.4m **Height:** 2.6m **Ground clearance:** 0.29m **Weight:** 11t **Max speed:** 120km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 10



International Armored Group ▶ Sentinel

IAG's Sentinel 4x4 armoured vehicle has been designed to meet the requirements of tactical response teams. In standard configuration, Sentinel carries a crew of two with eight passengers. An extended-length variant is also available, which enables up to 12 personnel to be carried. **Length:** 6.1m **Width:** 2.4m **Height:** 2.4m **Ground clearance:** 0.3m **Weight:** 8t **Max speed:** 120km/h **Range (on road):** 650km **Crew:** 2 **Passengers:** 8



International Marathon United Technology Group/Ministry of Military Production ► ST-500

The ST-500 lightly armoured 4x4 armoured vehicle was developed by International Marathon United Technologies in collaboration with the Egyptian Ministry of Military Production. It is available in multiple variants including ambulance and weapons carrier, with the standard APC configuration including space for a driver, commander and five passengers. First introduced at EDEX in 2018, the ST-500 is understood to have entered production for the Egyptian Army in mid-2021. **Length:** 5.65m **Width:** 2.4m **Height:** 2.46m **Ground clearance:** 0.34m **Weight:** 10.5t **Max speed:** 135km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 5



Isotrex Manufacturing ► Phantom 2

The Phantom 2 is manufactured by Isotrex Manufacturing. It is a 4x4 APC that features a five-door armoured body and can accommodate two crew and up to six passengers. The manufacturer states the vehicle can be almost entirely customised to the customer's needs. In January 2021, at least eight Phantom 2s were seen fielded by the Nigerian Army. **Length:** 6.25m **Width:** 2.24m **Height:** 2.6m **Crew:** 2 **Passengers:** 6



Isotrex Manufacturing ► Phantom

The Phantom is a 4x4 APC that was developed in the UAE and publicly unveiled at the IDEX exhibition in 2015. It features a five-door armoured body that can accommodate two crew and up to eight passengers. This can be customised with optional equipment to suit a wide range of different customer requirements and can also be equipped with a roof-mounted turret. **Length:** 6.12m **Width:** 2.5m **Height:** 2.65m **Crew:** 2 **Passengers:** 8



Isotrex Manufacturing ► Specter

The Specter is a 4x4 APC manufactured in the UAE and publicly unveiled in 2015. Based on the chassis of the ubiquitous Toyota Land Cruiser 79 Series, it features a new armoured body that can accommodate six passengers and two crew members. This can be customised to suit a range of different customer requirements and can be fitted with additional optional equipment, including a roof-mounted turret. **Length:** 5.26m **Width:** 2.11m **Height:** 2.12m **Crew:** 2 **Passengers:** 6



Iveco Defence Vehicles ► LMV1

Iveco Defence Vehicles introduced the 4x4 Light Multirole Vehicle (LMV) in 2001 to provide a vehicle with high levels of cross-country mobility and armour protection. It has continued to introduce improvements to its protection and mechanical components. Typical roles for the vehicle include reconnaissance, patrol, liaison, escort and utility. More than 4,000 LMV1s have been sold to 15 different countries, including Italy, which ordered more than 2,000 under the local designation Lince. In 2016, the LMV family was joined by the improved LMV2. **Length:** 4.9m **Width:** 2.2m **Height:** 2.2m **Ground clearance:** 0.47m **Weight:** 7.1t **Payload:** 800kg **Max speed:** 110km/h **Range (on road):** 700km **Crew:** 1 **Passengers:** 4



Iveco Defence Vehicles ► LMV2

In 2016, Iveco Defence Vehicles introduced the 4x4 Light Multirole Vehicle 2 (LMV2), an improved variant of its LMV1. In response to customer feedback, the LMV2 provides greater protection, more payload and advanced electronic capabilities, according to the manufacturer. The LMV2 is in production for the Italian Army, which has adopted it as the Light Multirole Tactical Vehicle 2 (VTLM2) Lince (Lynx). **Length:** 5.1m **Width:** 2.3m **Height:** 2.25m **Ground clearance:** 0.35m **Weight:** 8.3t **Payload:** 1,500kg **Max speed:** 110km/h **Crew:** 1 **Passengers:** 4



Iveco Defence Vehicles ▶ MTV

Designed to fill a gap in the market for a highly modular multirole 4x4 vehicle, the Medium Tactical Vehicle (MTV) has a GVW of 12,000kg and comes in several variants, all of which share a six-cylinder 6.7L diesel engine, automatic transmission and a permanent 4x4 drive system with three lockable differentials. The Netherlands has signed a contract with Iveco Defence Vehicles for 1,275 MTV platforms. **Length:** 5.9m **Width:** 2.43m **Height:** 2.76m **Ground clearance:** 0.35m **Weight:** 12t **Max speed:** 90km/h **Range (on road):** 600km **Crew:** 1 **Passengers:** 7



Jankel Armouring/Jordan Light Vehicle Manufacturing ▶ Hunter PPV

The Hunter Protected Personnel Vehicle (PPV) was designed by the Jankel Group to provide an internal security vehicle based on readily available Toyota Land Cruiser 79-Series COTS components. Manufactured in both the UK and in Jordan under the JV company Jordan Light Vehicles Manufacturing (JLVM), the Hunter can be adapted or modified to suit various customer requirements. At IDEX 2019, an updated version known as the Hunter Tactical Intervention Vehicle (TIV) was unveiled featuring automotive and protection improvements. **Length:** 5.1m **Width:** 1.8m **Height:** 2.23m **Weight:** 4.7t **Max speed:** 120km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 6



John Cockerill Defense ▶ Cockerill i-X

The Cockerill i-X is a wheeled armored vehicle designed as a light armored platform with a modular turret for intercepting enemy forces. John Cockerill Defense unveiled the new armored vehicle in March 2022, during the first day of the World Defence Show in Saudi Arabia. Three turret configurations are available, and the i-X can also perform modifications of its own IR and acoustic signature. **Max speed:** 200km/h **Range (on road):** 600km



Jordan Design and Development Bureau (JODDB) ► Al-Jawad MKIV

The Al-Jawad MKIV is the latest variant of the Al-Jawad series of internal security vehicles. Developed by the King Abdullah II Design and Development Bureau (KADDB), the Al-Jawad series has been used extensively by the Jordanian Gendarmerie and exported to other users. With enough room to carry ten people, the MKIV maintains the same basic design as its predecessors; however, it features some improvements to enhance its performance. **Length:** 6.3m **Width:** 2.2m **Height:** 2.4m **Ground clearance:** 0.2m **Weight:** 8.16t **Max speed:** 130km/h **Range (on road):** 650km **Crew:** 2 **Passengers:** 8



Jordan Design and Development Bureau (JODDB) ► Al-Wahsh

The Al-Wahsh is a 4x4 armoured vehicle manufactured in Jordan on the basis of a military off-the-shelf Tatra 4x4 all-terrain chassis. Intended for use as a troop transport, it can accommodate up to ten people in its armoured hull and several types of weapon stations can be mounted on the vehicle's roof. First unveiled in 2016, the Al-Wahsh has entered service with the Jordanian Armed Forces and seen combat in the Yemen Civil War. **Length:** 6.45m **Width:** 2.54m **Height:** 2.52m **Ground clearance:** 0.38m **Weight:** 18t **Max speed:** 110km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 8



JSC Utek ► Mercenary

The Nayomnik (Mercenary) is a 4x4 light armoured vehicle designed by JSC Utek. Unveiled in May 2021 by the Ministry of Energy, Industry and Communications of the Stavropol Territory, the vehicle is constructed entirely of domestically produced components. Equipped with video cameras, a navigation system and an automatic fire extinguishing system, the Nayomnik can be powered by either a petrol or diesel engine. **Crew:** 2 **Passengers:** 3



Kamaz ► Patrul-A

The Patrul-A is a 4x4 armoured vehicle designed to support internal security missions. Based on a KamAZ truck chassis, it features an armoured body capable of accommodating ten personnel and protecting against small arms fire, heavy machineguns and underbelly mine or IED blasts. The vehicle entered service with the Russian Ministry of Internal Affairs in 2016 and has also been procured by the National Guard and Military Police. **Length:** 7.16m **Width:** 2.55m **Height:** 3.42m **Ground clearance:** 0.37m **Weight:** 12t **Max speed:** 100km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 8



Katmercilir ► Hizir

Unveiled in November 2016, the Katmercilir Hizir is a 4x4 APC designed to offer a high level of ballistic and blast protection in a highly mobile platform. In its standard APC configuration, it can accommodate an Aselsan SARP remote weapons station and up to nine occupants. Alternatively, it can be adapted to perform different roles such as a surveillance vehicle, ambulance or command post. One such specialised surveillance variant designated Ateş has been adopted by the Turkish Ministry of Internal Affairs for monitoring Turkey's borders with Bulgaria and Greece. **Length:** 5.57m **Width:** 2.49m **Height:** 2.61m **Ground clearance:** 0.41m **Weight:** 16t **Max speed:** 120km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 7



Katmercilir ► Khan

The Khan is a lightly armoured 4x4 based upon the ubiquitous Toyota Land Cruiser-79 chassis and automotive components. Intended primarily for internal security roles, it can provide protection against ballistic threats for up to eight personnel. The vehicle is not equipped with armament as standard, but a weapon station can be mounted on the roof as an option. **Length:** 5.23m **Width:** 2.210m **Height:** 2.430m **Ground clearance:** 0.32m **Weight:** 5.9t **Max speed:** 130km/h **Crew:** 2 **Passengers:** 6



Kharkiv Morozov Machine Building Design Bureau ▶ Dozor-B

The Dozor-B is a 4x4 light armoured personnel carrier privately developed by the Kharkiv Morozov Machine Building Design Bureau (KMDB) between 2004 and 2005. A small batch of ten vehicles was delivered to the Ukrainian Armed Forces in 2015 and more orders were planned, but delays in production and problems with the completed vehicle meant that further procurement was eventually cancelled. Ukraine has instead opted to procure the Oncilla, an improved version of the Dozor-B manufactured in Poland. In the meantime, KMDB redesigned the Dozor-B, leading to its adoption by the Ukrainian Armed Forces in July 2020. **Length:** 6m **Width:** 2.5m **Height:** 2.7m **Ground clearance:** 0.4m **Weight:** 9.6t **Max speed:** 100km/h **Range (on road):** 560km **Crew:** 3 **Passengers:** 6



Kran Va Maxsus Texnikala ▶ Tarlon

The Tarlon is a 4x4 armoured vehicle manufactured in Uzbekistan by the Krantas Group. It appears to be based upon the Nurot Makina Ejder Yalçın, with which it shares many external similarities. Designed to provide convoy escort, medevac, engineering, CBRN reconnaissance and fire support, the vehicle can carry up to 11 personnel and is capable of mounting a protected weapon station armed with a 12.7mm heavy machine gun on the roof. **Range (on road):** 750km **Crew:** 2 **Passengers:** 9



Krauss-Maffei Wegmann ▶ Mungo

KMW developed the Mungo family to meet a requirement from the German Army for a protected multipurpose air-portable vehicle that could be carried by a CH-53/CH-47 helicopter to equip its airborne and special forces. The Mungo can be prepared for loading internally on a CH-53 or CH-47 within five minutes, and three vehicles can be carried by a C-130 transport aircraft. The Mungo is based on the Multicar M30/FUMO chassis. **Length:** 4.47m **Width:** 1.94m **Height:** 2.44m **Ground clearance:** 0.22m **Weight:** 5.3t **Max speed:** 90km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 8



Lacenaire ► Oncilla

Unveiled at the 2013 MSPO exhibition, the Oncilla is a licence-produced variant of the Ukrainian Dozor-B 4x4 armoured vehicle which incorporates several minor improvements to correct flaws in the original design. Although developed by Cyprus-based firm Lacenaire, the vehicle is built in Poland by Mista. Dissatisfied with the Dozor-B, the Ukrainian Armed Forces have decided to procure this variant of the vehicle instead and it has also been exported in small numbers to Senegal. **Length:** 5.8m **Width:** 2.45m **Height:** 2.7m **Ground clearance:** 0.4m **Weight:** 8.8t **Max speed:** 120km/h **Range (on road):** 750km **Crew:** 3 **Passengers:** 6



Mahindra Defence Systems ► Marksman

The Marksman is a 4x4 APC developed in 2006 as a response to an Indian requirement for a bulletproof SF vehicle. Relatively small and lightweight, it is suitable for use by police forces as well as military operators. Although originally designed and produced in India, the Marksman is also manufactured in the UAE by Mahindra Emirates Vehicle Armouring. **Length:** 4.39m **Width:** 1.8m **Height:** 2.03m **Ground clearance:** 0.24m **Weight:** 2.6t **Max speed:** 120km/h **Range (on road):** 531km **Crew:** 2 **Passengers:** 4



Mahindra Emirates Vehicle Armouring ► Mahindra ALSV

The Mahindra Armoured Light Specialist Vehicle (ALSV) is built by Mahindra Emirates Vehicle Armouring. Mahindra's armoured division in the UAE. The ALSV is a 4x4 LAV. It is designed to be modular, enabling it to operate in a variety of configurations to perform many operational roles. As of January 2020, it is fielded by India and UN peacekeeping forces. **Weight:** 1t **Max speed:** 120km/h **Range (on road):** 400km **Crew:** 1 **Passengers:** 4



MDT Armor ► David

The David is a light armoured vehicle consisting of an armoured capsule that can be mounted on either a Toyota Landcruiser, Hilux or Land Rover Defender 110 COTS chassis. Able to seat between four and eight personnel, it offers up STANAG 4569 Level 2 standard of protection and has provision for mounting a weapon station on the roof. Since entering service in 2007, it has seen extensive operational use with the Israel Defense Force (IDF). **Length:** 4.3m **Width:** 1.8m **Height:** 2.2m **Ground clearance:** 0.24m **Weight:** 3.6t **Max speed:** 115km/h **Range (on road):** 500km **Crew:** 1 **Passengers:** 5



MDT Armor ► Tiger LPV

The MDT Armor 4x4 Tiger Light Protected Vehicle (LPV) is designed to meet the requirements of military and law enforcement customers for a survivable, light protected all-terrain vehicle that can be configured to seat up to nine personnel. Although there have been no reported military customers as of early 2018, the Tiger has been sold to law enforcement agencies in Mexico and the US. **Length:** 5.6m **Width:** 2.42m **Height:** 0m **Ground clearance:** 0.3m **Weight:** 10.4t **Payload:** 1,360kg **Max speed:** 120km/h **Range (on road):** 610km **Crew:** 1 **Passengers:** 8



Mercedes-Benz Defence Vehicles ► LAPV464

The Light Armoured Patrol Vehicle 464 (LAPV464) is a lightly armoured 4x4 vehicle being developed by Mercedes-Benz and its partners for sale to potential military customers. Unlike earlier vehicles in the LAPV series, it is based on the new G-Class BR464 chassis unveiled in September 2021, which introduces a more efficient engine, revised electrical system and several ergonomic improvements. **Length:** 5m **Width:** 2.12m **Height:** 2.31m **Ground clearance:** 0.41m **Weight:** 6.5t **Crew:** 2 **Passengers:** 4



Mildef International Technologies ► HMAV

Mildef International Technologies publicly unveiled the prototype High Mobility Armoured Vehicle (HMAV) 4x4 at an event in Sepang in February 2021. Designed to meet UN specifications for protection and remote weapons station integration, the vehicle is expected to be put forward for a Malaysian tender to procure 20 new armoured personnel carrier for peacekeeping forces deployed in Lebanon. Mildef also claims that it has received orders for more than 100 units from undisclosed international customers. **Length:** 5.6m **Width:** 2.5m **Height:** 2.5m **Ground clearance:** 0.43m **Weight:** 14t **Max speed:** 110km/h **Crew:** 2



Military Industrial Company ► Atlet

The Atlet is a 4x4 multi-purpose armoured vehicle developed by the Military Industrial Company to meet the demands of the Russian Armed Forces for a light armoured vehicle with greater payload and a higher degree of blast protection than the Tigr-M. Unveiled in 2019, the Atlet can be configured to carry between two and eight personnel, as well as cargo and weapons stations. Although designed in accordance with Russian military requirements, it is also offered for export as the SBM VPK-233136. **Length:** 5.7m **Width:** 2.35m **Height:** 2.55m **Ground clearance:** 0.4m **Weight:** 9t **Max speed:** 120km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 6



Military Industrial Company ► Strela

Russia's Military Industrial Company (VPK) developed the Strela multirole 4x4 armoured vehicle as a private venture and unveiled the platform in July 2020. Based on commercially available CAZ automotive components and sporting a modular design, the Strela can accommodate up to eight personnel in its troop-carrying variant, or it can be reconfigured to perform other roles. Due to its light weight, it can be carried in a sling by the Mi-8/Mi-17 transport helicopter. Should orders materialise, VPK and its subsidiaries will have the capacity to produce up to 500 Strelas each year. **Length:** 4.7m **Width:** 2.2m **Height:** 2.1m **Ground clearance:** 0.25m **Weight:** 4.7t **Max speed:** 155km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 6



Military Industrial Corporation (MIC) ▶ Sarsar-2

Unveiled at IDEX 2015, MIC's Sarsar-2 APC is based on the KIA 1.2t 4x4 chassis, which the Sudanese company is licensed to produce. The company is supplying the Sarsar-2 vehicle to complement the Sudanese Army's existing fleet of Sarsar-1s.

Length: 5.15m **Width:** 1.78m **Height:** 2.6m **Weight:** 5.5t

Max speed: 80km/h **Crew:** 3 **Passengers:** 8



Milkor ▶ Milkor 4x4

The Milkor 4x4 is an armoured vehicle that can be used in various configurations, including an APC, command post, ambulance and police vehicle. In order to lower development and maintenance costs, the platform is based upon the proven and readily available Iveco Trakker chassis. **Length:** 5.92m

Width: 2.42m **Height:** 3.36m **Ground clearance:** 0.54m **Weight:** 15t

Max speed: 110km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 8



Minerva Special Purpose Vehicles ▶ Panthera T6

The Panthera T6 is a lightweight 4x4 APC based on the ubiquitous Toyota Land Cruiser 79-Series chassis. Designed for use by both military and police forces, the Panthera T6 can be customised to suit specific user requirements. This customisation encompasses seating arrangements, protection levels, the addition of firing ports and the installation of a roof-mounted machine gun among other features. Produced in both the UAE and in Egypt by Eagles Defence International Systems (EDIS), the Panthera T6 has been exported to several militaries and police forces. **Weight:** 3.2t **Max speed:** 165km/h **Crew:** 2

Passengers: 6



Minsk Wheel Tractor Plant (MZKT) ▶ Volat-490101

The Volat-490101 is a 4x4 LAV manufactured by the Minsk Wheel Tractor Plant (MZKT). It is marketed as an armoured personnel carrier (APC) that can be operated in a number of configurations. Compared to its predecessor, the Volat-490100, the 490101 has a more powerful engine, a larger payload capacity and offers greater protection. **Length:** 5.7m **Width:** 2.45m **Height:** 2.3m **Weight:** 9.2t **Max speed:** 110km/h **Range (on road):** 900km **Crew:** 2 **Passengers:** 4



Mobile Land Systems ▶ Cobra APC

The Cobra is a 4x4 APC developed and manufactured in the UAE by Mobile Land Systems. It is based on the Ford F-550 COTS chassis and is intended primarily for use in urban areas where its small size and manoeuvrability can be exploited. Three variants of the Cobra are available: a three-door, a five-door and a double-cabin version, which differ in their payload and the number of troops they can accommodate. **Length:** 6.21m **Width:** 2.59m **Height:** 2.52m **Ground clearance:** 0.32m **Weight:** 11.2t **Max speed:** 110km/h **Range (on road):** 500km **Crew:** 2 **Passengers:** 6



Mobile Land Systems ▶ Currus

The Currus is a 4x4 APC manufactured in the UAE. Based on the COTS Toyota Land Cruiser 79-Series chassis, it is intended to be compact and manoeuvrable enough to operate in urban areas, while still maintaining a high degree of mobility over rough terrain. In its standard APC configuration, the Currus features an armoured body with sufficient room for two crew and eight passengers, although it can also be outfitted for other roles such as a police patrol vehicle. **Length:** 5.7m **Width:** 1.86m **Height:** 2.19m **Crew:** 2 **Passengers:** 8



Nimr Automotive ► Ajban Mk2

The Ajban Mk2 is an evolution of Nimr's Ajban 440A 4x4 armoured vehicle platform that builds upon technology developed for the Ajban 447A prototype. Designed to offer greater mobility, payload, protection and modularity over its predecessor, the new vehicle introduces a monocoque V-shaped hull for increased blast protection. Able to be configured for different roles, the Ajban Mk2 can carry up to seven personnel. **Length:** 5.62m **Width:** 2.35m **Height:** 2.39m **Ground clearance:** 0.51m **Weight:** 11.5t **Range (on road):** 700km **Crew:** 2 **Passengers:** 5



Nimr Automotive ► Jais (N35)

The Jais 4x4 (then known as the RG35) was unveiled in September 2009 by BAE Systems Land Systems South Africa (LSSA). The Jais is part of a family of vehicles, with several variants available, including ambulance, weapon carrier and command post. All are available in either 4x4 or 6x6 configurations with over 90% commonality. Additionally, the Jais can carry light and medium turrets. **Length:** 7.2m **Width:** 2.6m **Height:** 2.7m **Ground clearance:** 0.42m **Weight:** 24t **Max speed:** 105km/h **Range (on road):** 1,000km **Crew:** 3 **Passengers:** 13



Norinco ► VP11

Norinco's VP11 4x4 MRAP was introduced around 2014 and is believed to be an evolution of the company's earlier 8M MRAP developed in cooperation with South Africa's EW12. Able to seat up to eight personnel, the VP11 has a V-shaped hull to deflect underbelly blasts away from its occupants and it can be configured for either military or internal security operations. Customers can opt to arm the vehicle with either a manually-operated protected weapon station or an RWS. **Crew:** 2 **Passengers:** 6



Nurol Makina ve Sanayi ► Ejder TOMA

Ejder TOMA is a 4x4 riot control vehicle manufactured by Turkish company Nurol Makina. It is based on a military chassis and it features a water cannon with a 5,000l water tank. The model is a successor to TOMAs that were converted from a commercial chassis. Ejder TOMA has been designed to work in urban environments, but it can also perform in off-road conditions. **Length:** 7.14m **Width:** 2.54m **Height:** 3.35m **Ground clearance:** 0.38m **Weight:** 20t **Max speed:** 110km/h **Range (on road):** 0.75km **Crew:** 2



Nurol Makina ve Sanayi ► Ilgaz II

Launched in 2017, the Ilgaz II is the successor to the original Ilgaz 4x4 armoured vehicle. Although primarily intended for use as an internal security vehicle, it can also be configured to meet the demands of SOF and other military users. A rotating turret armed with a machine gun or a 9K115-2 Metis-M ATGM launcher can be mounted on its roof. **Length:** 5.9m **Width:** 2.46m **Height:** 2.4m **Ground clearance:** 0.36m **Weight:** 8.8t **Max speed:** 120km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 7



Nurol Makina ve Sanayi ► NMS/Yörük

The NMS, also called the Yörük in Turkish, is a 4x4 armoured vehicle developed by Nurol Makina. This modular design can be produced in several different configurations and outfitted with a variety of optional armaments, armour protection packages and features. Despite its military aesthetic, the vehicle is intended for both the civil and the military sectors and can be extensively customised in order to fulfil a range of different roles. **Length:** 5.4m **Width:** 2.4m **Height:** 2.1m **Ground clearance:** 0.42m **Weight:** 10.4t **Payload:** 2,000kg **Max speed:** 140km/h **Range (on road):** 700km **Crew:** 5 **Passengers:** 4



Osprea Logistics ► Mamba Mk7

The Mamba Mk7 is one of the latest evolutions of the venerable South African Mamba mine-protected vehicle platform.

Available in six configurations, the Mk7 offers a greater level of protection to its occupants, increased mobility and a modular design. Although it is typically manufactured in the US, Osprea Logistics can also assist in setting up local production lines for the Mamba Mk7 if customers want to localise production.

Length: 6.33m **Width:** 2.67m **Height:** 2.6m **Ground clearance:** 0.4m **Weight:** 15t **Max speed:** 105km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 9



Osprea Logistics ► Mamba Mk7-X

The Mamba Mk7-X is the new generation of the Osprea's Mamba Mk7 4x4 armoured vehicle. It provides the user with more power, more manoeuvrability, higher levels of protection and a number of add-on features. Available in six different configurations, it can be assembled or manufactured in the customer's country. **Length:** 6.68m **Width:** 2.63m **Height:** 2.88m

Ground clearance: 0.46m **Weight:** 16.8t **Max speed:** 120km/h **Range (on road):** 600km **Crew:** 1 **Passengers:** 7



Otokar ► Cobra

Otokar began deliveries of its 4x4 Cobra light armoured vehicle to the Turkish Land Forces Command in 1997. Cobra is a modular platform, providing high mobility and levels of protection, adaptability to various missions and a low logistic footprint. More than 2,500 Cobras in numerous variants have been sold to customers in over 15 countries. **Length:** 5.2m

Width: 2.2m **Height:** 2.1m **Ground clearance:** 0.4m **Weight:** 6.3t **Max speed:** 110km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 7



Otokar ► Cobra II

The 4x4 Cobra II is the next generation of Otokar's Cobra family, which has been sold to 15 countries. It offers higher protection, greater payload capacity and more internal volume than the first-generation design while retaining its off-road capability.

Otokar unveiled the Cobra II in May 2013, and since then, Turkey is believed to have ordered more than 250 vehicles. **Length:** 6m

Width: 2.7m **Height:** 2.3m **Ground clearance:** 0.5m **Weight:** 12t

Max speed: 110km/h **Range (on road):** 700km **Crew:** 2

Passengers: 7



Otokar ► ISV

The Internal Security Vehicle (ISV) is a 4x4 APC developed for public security missions. It is available in five variants: personnel carrier, prisoner carrier, C2, ambulance and water cannon variants. The personnel carrier variant is suited for personnel carriage in risky territories due to its high armour protection.

Length: 8.16m **Width:** 2.59m **Height:** 3.81m **Ground clearance:** 0.36m **Weight:** 18t **Max speed:** 100km/h **Crew:** 2

Passengers: 14



Panus ► HMT-420P 'Mosquito'

The HMT-420P 'Mosquito' 4x4 AFV is a modernised development of Cadillac Gage's Vietnam War-era Commando APC. It has been adapted for use by the Royal Thai Army to be a low-cost vehicle capable of carrying out a range of different operations.

Length: 6.72m **Width:** 2.85m **Height:** 2.98m

Weight: 18t **Max speed:** 110km/h **Crew:** 2



Paramount Group ▶ Matador 4x4 APC

The Matador 4x4 vehicle can be configured as an APC or a light infantry combat vehicle, with the addition of weaponry. It is designed to carry infantry crew of up to 14 and their equipment and can operate self-contained for up to a week. It has also been tested in difficult terrain in the Middle East and offers mobility over all types of ground. **Length:** 6.5m

Width: 2.4m **Height:** 2.7m **Ground clearance:** 0.42m **Weight:** 18t **Max speed:** 120km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 12



Paramount Group/Kalyani Group ▶ Mbombe 4

The Mbombe 4 is the 4x4 variant of Paramount's Mbombe family of mine-protected vehicles. Capable of carrying up to 11 personnel, the Mbombe 4 shares up to 80% of its components with the 6x6 and 8x8 versions of the Mbombe family, intended to reduce through-life operating and support costs. Equipped with a unique flat-bottomed armoured hull, the vehicle can protect its occupants from the equivalent of three 10kg TNT explosions under the vehicle and a 50kg side blast. In India, a version of the vehicle known as the M4 or TC-20 is marketed by the Kalyani Group under a JV formed with Paramount Group.

Length: 5.89m **Width:** 2.6m **Height:** 2.45m **Ground clearance:** 0.36m **Weight:** 15t **Max speed:** 140km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 8



Paramount Group/Kazakhstan Paramount Engineering ▶ Marauder

The Marauder 4x4 can be configured as a simple troop carrier or as a wheeled combat vehicle by the addition of a heavy machine gun mounted in a variety of turrets. It can also be supplied in a standard form or in a stretched version, offering space to carry more troops or accommodate extra stores and supplies. The Marauder is produced under license in Kazakhstan as the Arlan. **Length:** 6.1m **Width:** 2.4m **Height:** 2.6m **Weight:** 16t **Max speed:** 110km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 7



Pindad (Persero) ▶ Komodo

PT Pindad completed the prototype of the 4x4 Komodo multirole vehicle in March 2012. At the IndoDefence exhibition in November 2012, government officials said at least 240 Komodo vehicles would be built for the Indonesian armed forces and police. Although it is unclear how many, the Indonesian Army (TNI-AD) has received many Komodo 4x4 armoured vehicles since PT Pindad first unveiled the platform, most recently receiving ten units in January 2022. **Length:** 5.65m **Width:** 2.25m **Height:** 2.15m **Ground clearance:** 0.44m **Weight:** 7.3t **Payload:** 1,500kg **Max speed:** 100km/h **Range (on road):** 450km **Crew:** 1 **Passengers:** 4



Plasan Sasa ▶ Stormrider

Plasan introduced the Stormrider 4x4 armoured vehicle in 2019. Like the preceding Sandcat series of 4x4 armoured vehicles, it can be used for troop transport, patrol missions, reconnaissance and other specialised roles. Larger than the Sandcat, the Stormrider has seats for ten people and can be armed with a roof-mounted weapon station. On this design, Plasan has dispensed with the COTS Ford ladder-frame chassis in favour of a purpose-built monocoque design to offer a greater payload and higher levels of ballistic and blast protection for its occupants. As of April 2020, the platform has entered production for two undisclosed customers. **Length:** 6.03m **Width:** 2.53m **Height:** 2.62m **Ground clearance:** 41.8mm **Weight:** 11.5t **Max speed:** 105km/h **Crew:** 2 **Passengers:** 8



Practika ▶ Kozak-2

The Kozak-2 light armoured vehicle, and its Kozak 2M upgraded model, are produced by NPO Practika. It is marketed as a multi-purpose vehicle that can be used for a variety of supporting roles. Between March 2017 and December 2020, the Ukrainian Armed Forces received just over 300 Kozak-2s, which are now in operation. **Length:** 6.23m **Width:** 2.5m **Height:** 2.3m **Ground clearance:** 0.41m **Weight:** 12t **Max speed:** 120km/h **Range (on road):** 1,000km **Crew:** 3 **Passengers:** 6



Proforce ▶ Ara 2

The Ara 2 is an evolution of Nigeria-based Proforce's Ara 4x4 mine-protected armoured vehicle. Unlike its predecessor, the Ara 2 features a purpose-built V-shaped monocoque hull offering underbelly blast protection equivalent to NATO STANAG 4569 Level 4a and 4b standards. Capable of carrying up to 12 personnel in its standard APC variant, the platform can also be configured for other roles. It can be armed with a heavy machine gun mounted in a protected weapon station. **Length:** 7.1m **Width:** 2.5m **Height:** 3.3m **Ground clearance:** 0.44m **Weight:** 17t **Crew:** 2 **Passengers:** 10



Remdiesel ▶ Kamaz-53949 Taifun-K

The Kamaz-53949 Taifun-K (Typhoon-K) is a 4x4 MRAP vehicle manufactured in Russia by Remdiesel, a subsidiary of Kamaz. Originally developed in 2010 as a private venture to meet a Russian Army requirement for an MRAP-type vehicle, its reliance on Western components caused it to suffer from the effects of sanctions placed on Russia. Nevertheless, the vehicle has since been offered to the Russian Army and foreign users in its standard troop-carrying configuration. It is capable of accommodating up to ten personnel and is available in a variety of other variants, including an ambulance and ATGM carrier. **Length:** 6.7m **Width:** 2.5m **Height:** 2.8m **Weight:** 16t **Max speed:** 100km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 8



Roshel Defence Solutions ▶ Senator

The Senator is a 4x4 multipurpose APC developed by Roshel to support a wide range of missions in the military, peacekeeping and law enforcement domains. Reflecting the emphasis on protection and mobility that has informed the design, the Senator can be equipped with various optional features to enhance the survivability and cross-country capabilities of the vehicle. First publicly unveiled in 2018, the Senator entered production that same year in response to several orders from undisclosed customers. **Length:** 5.6m **Width:** 2.4m **Height:** 2.75m **Range (on road):** 800km **Crew:** 2 **Passengers:** 10



Shaanxi Baoji Special Vehicles Manufacturing ▶ Tiger Type 2065

The Tiger Type 2065 is the heaviest 4x4 armoured vehicle offered by Chinese private company Shaanxi Baoji Special Vehicles. Available in both open-topped and closed configurations, the Tiger can be adapted for a wide range of roles, such as an armoured personnel carrier, patrol, police vehicle, ambulance, command post and weapons carrier. Since its introduction at the 2012 Eurosatory exhibition, the Tiger has been sold to several militaries, including those of the Bahamas, Bolivia, Somalia and Tajikistan. **Length:** 5.36m **Width:** 2.32m

Height: 2.3m **Ground clearance:** 0.35m **Weight:** 6.5t

Max speed: 115km/h **Range (on road):** 600km **Crew:** 2

Passengers: 9



Sisu Defence ▶ GTP

Sisu introduced the 4x4 GTP APC in April 2018 and is marketing the vehicle as a cost-effective replacement for the Pasi APC. Due to its modular construction, the baseline GTP chassis can be fitted with different types of armoured bodies to create an APC, reconnaissance vehicle or utility vehicle. Additional armour can also be attached to the vehicle to tailor its survivability to meet changing operational requirements. The first GTP prototype was delivered to the Finnish Army in April 2018 for testing. Sisu also offered the GTP to meet a Latvian requirement for a mine resistant ambush protected-type vehicle, but the contract was terminated. **Length:** 6m **Width:** 2.55m **Height:** 2.55m **Ground clearance:** 0.4m **Weight:** 16.5t **Max speed:** 100km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 8



SOFRAME ▶ ARIVE

The ARIVE is a 4x4 armoured vehicle that is able to carry up to 12 people. The vehicle can be adapted for different roles, including an APC, command post and an ambulance, which can be configured to the user's requirements. **Length:** 7.4m **Width:** 2.54m **Height:** 3.3m **Weight:** 14.5t **Max speed:** 100km/h **Crew:** 2 **Passengers:** 10



SOFRAME ► MPCV

The Multi-Purpose Combat Vehicle (MPCV) is a 4x4 armoured vehicle developed by Soframe on the Mercedes-Benz Unimog 5000 truck chassis. Able to accommodate between four and ten personnel, it can be configured in four variants: APC, ambulance, air-defence vehicle and command post. **Length:** 6.2m **Width:** 2.45m **Height:** 2.5m **Weight:** 13t **Max speed:** 90km/h **Crew:** 2 **Passengers:** 8



ST Engineering Land Systems ► Belrex

The 4x4 Belrex Protected Combat Support Vehicle (PCSV), introduced into service in November 2016, was developed by Singapore's Defence Science Technology Agency and ST Kinetics on the basis of Paramount Group's Marauder to meet the requirements of the Singapore Army. Belrex is designed to provide a vehicle with protection comparable to an MRAP to undertake combat support and combat service support functions within mechanised infantry battalions and other units. **Length:** 7.25m **Width:** 2.6m **Height:** 2.75m **Ground clearance:** 0.34m **Weight:** 20t **Max speed:** 110km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 8



Stark Motors ► Raider LTAV

The Raider Light Tactical Armoured Vehicle (LTAV) is a lightly armoured 4x4 vehicle based on the commercially available Dodge Ram 5500 chassis. Intended for specialised military and law enforcement roles, the Raider can mount a machine gun or automatic grenade launcher in a roof-mounted protected weapon station and can carry up to ten personnel. **Crew:** 2 **Passengers:** 8



Stark Motors ▶ Storm

The Storm is a light APC based on the Toyota Land Cruiser 79 commercial SUV developed by Qatari armoured vehicle manufacturer Stark Motors. The Storm features a new armoured body able to accommodate a maximum of ten occupants and provision for a roof-mounted protected weapon station capable of being armed with a machine gun or automatic grenade launcher. Since its public debut in 2018, several examples of the Storm have been donated by Qatar to governments as military aid. **Crew:** 2 **Passengers:** 6



STC Delta ▶ Didgori AMEV

The Didgori Armoured Medical Evacuation Vehicle (AMEV) is a variant of the Didgori APC manufactured by STC Delta. It is designed to ensure the safe transportation of wounded soldiers from the frontline of military operations and to provide medical aid during this process. Following a contract worth \$40 million, 115 AMEVs were delivered to Saudi Arabia from 2016 onwards. In October 2020, the Georgian Armed Forces received 21.

Length: 6.5m **Width:** 2.39m **Height:** 2.2m **Ground clearance:** 0.4m **Weight:** 10.9t **Max speed:** 120km/h **Range (on road):** 500km **Crew:** 3 **Passengers:** 4



STC Delta ▶ Didgori APC

The Didgori APC is the oldest member of the Didgori family of vehicles produced by STC Delta. It is an armoured multi-purpose vehicle that is capable of hosting a variety of weapons systems and offers STANAG 4569 Level 3 ballistic and STANAG 4569 Level 2A blast protection: a higher level of protection compared to its AMEV variant and the newer Didgori Meomari. **Length:** 6.12m **Width:** 2.35m **Height:** 2.23m **Weight:** 8.86t **Max speed:** 120km/h **Range (on road):** 500km **Crew:** 3 **Passengers:** 6



STC Delta ► Didgori Meomari

Introduced by STC Delta into the Didgori range in 2018, the Didgori Meomari is a 4x4 modular armoured support vehicle. It shares the same armour and engine as other vehicles in the Didgori family. In October 2020, 14 were delivered to the Georgian Armed Forces. **Length:** 5.62m **Width:** 2.42m **Height:** 2.44m **Weight:** 7t **Max speed:** 120km/h **Range (on road):** 500km **Crew:** 2 **Passengers:** 3



Streit Group ► Gladiator-AHV

Streit Group's Gladiator-AHV is a 4x4 capable of transporting troops and equipment in urban and off-road environments. It provides protection to users against both ballistic and blast threats with armour to the standard of STANAG 4568 Level 2. **Length:** 6.76m **Width:** 2.45m **Height:** 2.71m **Max speed:** 120km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 12



Streit Group ► Python-LAMV

The Python-LAMV is a 4x4 IFV designed for transporting soldiers and/or equipment in urban or semi-rural environments. It is armed with three gun ports and has a 360° turret and 7.62mm PKM gun mounted to its roof. **Length:** 5.4m **Width:** 1.94m **Height:** 2.18m **Max speed:** 110km/h **Range (on road):** 900km **Crew:** 2 **Passengers:** 8



Streit Group ▶ Spartan

The Spartan 4x4 APC is a multi-role light armoured vehicle manufactured by the Streit Group and under licence in Ukraine by KrAZ. Capable of being armed with several different weapon stations and accommodating a variety of optional equipment, the Spartan can be configured for several military and law enforcement roles. **Length:** 6.26m **Width:** 2.46m **Height:** 2.38m **Weight:** 8.8t **Max speed:** 110km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 6



Streit Group/Kremenchuk Automobile Plant (KrAZ) ▶ Cougar

The Cougar is a lightweight 4x4 APC based on the Toyota Land Cruiser. Designed to deliver high mobility in urban and rural environments, the Cougar is suitable for use by both military and police forces. It is possible to customise the basic design to suit specific user requirements, including the addition of a roof-mounted protected or remote weapons station. Developed by the Streit Group, the Cougar has also been manufactured under licence by the Ukrainian KrAZ factory, which has delivered examples to the Ukrainian Armed Forces. **Length:** 5.35m **Width:** 2.03m **Height:** 2.11m **Crew:** 2 **Passengers:** 6



Technology and Security Developments ▶ Ibero SMV20

The Ibero Security Multipurpose Vehicle 20 (SMV20) is a 4x4 armoured vehicle based on the Mercedes-Benz Unimog truck chassis. It is designed to carry out non-frontline roles that straddle the boundary between military and law enforcement, such as border control, peacekeeping and internal security. **Length:** 6m **Width:** 2.8m **Height:** 2.65m **Ground clearance:** 0.45m **Weight:** 9.5t **Range (on road):** 800km **Crew:** 2 **Passengers:** 10



Textron Systems Marine & Land Systems ► Commando Advanced

In response to demand from overseas customers, Textron Marine & Land Systems developed the Commando Advanced based on its M1117 Armored Security Vehicle used by the US Army in Afghanistan and Iraq. The Commando Advanced APC adds extra troop capacity to a mobile, survivable medium four-wheeled armoured vehicle. **Length:** 6.63m **Width:** 2.56m **Height:** 2.59m **Ground clearance:** 0.46m **Weight:** 16.33t **Max speed:** 105km/h **Range (on road):** 708km **Crew:** 3 **Passengers:** 7



Textron Systems Marine & Land Systems ► Commando Select

The Commando Select 4x4 APC, built on knowledge gained from the M1117 Armored Security Vehicle's ten years of combat theatre use by the US Army, is designed to offer the combination of lethality, survivability, mobility and sustainability. It is claimed that the Commando Select delivers greater mobility than other four-wheeled armoured vehicles on the market while maintaining in-built crew protection. **Length:** 6.8m **Width:** 2.7m **Height:** 2.3m **Ground clearance:** 0.66m **Weight:** 17.6t **Max speed:** 100km/h **Range (on road):** 644km **Crew:** 3 **Passengers:** 7



Thales Australia ► Bushmaster

The 4x4 Bushmaster was developed in 1995-99 to meet the Australian Army's need for an Infantry Mobility Vehicle (later changed to Protected Mobility Vehicle) with high levels of protection, sustained speed, tactical mobility, endurance, ergonomics and situational awareness for a squad of up to ten soldiers. Since receiving the first production contract in June 1999, Thales has built 1,052 Bushmasters for Australia and more than 170 for Jamaica, Japan, the Netherlands and the UK. **Length:** 7.18m **Width:** 2.48m **Height:** 2.65m **Ground clearance:** 0.4m **Weight:** 11t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 10



Thales Australia ► Bushmaster MR6

The Bushmaster MR6 4x4 armoured vehicle is an evolution of the popular Bushmaster design manufactured by Thales. It can be operated in 12 different configurations, including a battlefield ambulance variant which was on display when the MR6 was first unveiled in 2018. The vehicle is competing in the United Kingdom's Multi-Role Vehicle Protected (MRVP) Package 2 program, which is evaluating new armoured personnel carriers and battlefield ambulances. **Range (on road):** 800km **Crew:** 2 **Passengers:** 10



The Armored Group (TAG) ► BATT UMC

The BATT UMC is a mine-protected variant of the BATT armoured personnel carrier 4x4 multipurpose armoured vehicle, both developed by The Armored Group (TAG) using the Ford F-550 COTS pickup truck chassis. Unveiled at IDEX 2021, the BATT UMC features STANAG 4569 Level 2a/2b blast protection and can carry a payload of up to 1.6 tonnes in its rear cargo bed. Aimed at both military and law enforcement customers, the BATT UMC can be configured as an armoured personnel carrier, C2 centre, ambulance or VIP transport.

Length: 6.01m **Width:** 2.32m **Height:** 2.42m **Ground clearance:** 0.36m **Weight:** 11.7t **Max speed:** 100km/h **Crew:** 2 **Passengers:** 8



The Armored Group (TAG) ► Terrier LT-79

The Terrier LT-79 is a 4x4 armoured vehicle that can be configured with a wide range of optional equipment, including a roof-mounted protected weapon station, to meet the requirements of law enforcement, NGO, paramilitary and military customers. Based upon the ubiquitous Toyota Land Cruiser 79-Series chassis and driveline, it utilises many COTS parts to reduce its logistical and support costs. **Length:** 5.23m **Width:** 1.87m **Height:** 2.18m **Ground clearance:** 0.29m **Weight:** 5.6t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 8



Twiga ▶ Nyoka

The Nyoka is a 4x4 APC based upon upgraded ex-South African RG31 Mamba hulls and drivelines. Conceived by the South African firm Twiga, the production of the Nyoka for export customers is intended to facilitate technology transfer as well as the initiation of local production lines by encouraging most of the manufacturing and assembly process to take place domestically. Two basic variants of the Nyoka are marketed: an APC and a weapons platform, which replaces the troop compartment with an open rear area for mounting various armaments, including artillery systems. **Length:** 7m **Width:** 2.5m **Height:** 2.8m **Weight:** 16t **Max speed:** 100km/h **Range (on road):** 900km **Crew:** 2 **Passengers:** 9



Ukrainian Armor ▶ Novator

The Novator is a 4x4 armoured logistics vehicle developed on the basis of the COTS Ford F-550 pickup truck chassis. Intended for use as a light tactical vehicle by the Ukrainian National Guard, it can accommodate up to five fully equipped soldiers as well as a payload of up to 1,000kg in the rear cargo bed. **Length:** 5.8m **Width:** 2.41m **Height:** 2.16m **Weight:** 9t **Payload:** 1,000kg **Max speed:** 120km/h **Range (on road):** 700km



Ukrainian Armor ▶ Varta

The Varta is a 4x4 mine-protected armoured personnel carrier (APC) developed and produced in Ukraine. Reflecting Ukrainian experiences with vulnerable legacy Soviet-era APCs, the Varta uses proven military components and features a V-shaped armoured hull to provide a greater level of protection for its occupants. First unveiled in 2016, it has since been procured by the Ukrainian Armed Forces and export customers. **Length:** 8m **Width:** 2.6m **Height:** 3.6m **Ground clearance:** 0.33m **Weight:** 17.5t **Max speed:** 100km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 8



Ukrinmash ► Hulk

The Hulk is a 4x4 MRAP armoured vehicle based on the underpinnings of the KrAZ-5233 off-road vehicle. Publicly unveiled for the first time at the October 2016 Arms and Security exhibition in Kiev, this vehicle was developed by the Kremenchug Automobile Plant (KrAZ) for sale both at home and abroad. It is marketed as an off-road mine-protected vehicle that can be used to transport SF personnel, cargo or equipment across difficult terrain. **Length:** 6.18m **Width:** 2.57m **Height:** 3.04m **Ground clearance:** 0.3m **Weight:** 16t **Max speed:** 90km/h **Crew:** 2 **Passengers:** 10



Xiaolong Automotive ► XLW 2040I

The XLW 2040I is a lightweight 4x4 unveiled at the 17th China Cross-Straits Technology and Projects Fair in June 2019. Developed in collaboration between the Nanjing University of Science and Technology and Xiaolong Auto, the system is designed to be air-portable and capable of carrying a wide range of weapon systems. **Max speed:** 135km/h



Yugoimport-SDPR J.P ► BOV M11

The M11 is the current production standard of the 4x4 BOV multirole armoured vehicle family developed in the early 1980s. In the APC role, the BOV M11 carries a driver, commander, gunner and five dismounts, who enter and leave via two side doors. The vehicle is also offered with Yugoimport's M09 RWS armed with a 12.7mm heavy machine gun. **Length:** 5.72m **Width:** 2.53m **Height:** 1.97m **Ground clearance:** 0.32m **Weight:** 10.8t **Max speed:** 108km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 5



Yugoimport-SDPR J.P ► BOV M16 Miloš

The BOV M16 Miloš is the successor to the legacy BOV series of 4x4 armoured vehicles originally developed by Yugoslavia. Although it retains the 4x4 configuration of its predecessor, the BOV M16 features a new V-shaped hull for improved blast and ballistic protection, a new powertrain and independent suspension for enhanced cross-country mobility and the ability to mount a remote weapons station. It is a multipurpose vehicle that is capable of carrying up to eight troops as an APC or being configured for other roles, such as ambulance, command post or antitank vehicle. **Length:** 5.48m **Width:** 2.48m **Height:** 2.3m **Ground clearance:** 0.42m **Weight:** 14t **Max speed:** 110km/h **Crew:** 2 **Passengers:** 6



Zetor Engineering ► Gerlach

'Project Gerlach' is a 4x4 armoured tactical vehicle developed as a replacement for the Slovakian Army's existing fleet of 4x4 armoured vehicles. Reflecting an emphasis on protection, mobility and ergonomics, the vehicle utilises a purpose-built V-shaped hull and incorporates design elements influenced by the lessons learnt from recent combat deployments. As a modular design, the Gerlach can be adapted to suit customer requirements and is available in several configurations, including APC, ambulance and cargo carrier. **Length:** 5.86m **Width:** 2.82m **Height:** 2.75m **Ground clearance:** 0.47m **Weight:** 12.5t **Max speed:** 110km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 4



6x6 APCs/IFVs ► ADG Mobility ► Kurjak

The Kurjak is a 6x6 armoured amphibious fighting vehicle with landmine and IED protection. It has been developed by ADG Mobility and Srboauto in Serbia. **Length:** 7m **Height:** 2.6m **Max speed:** 115km/h **Crew:** 11



Arquus/Mack Defense ► VAB Mk III

Unveiled in 2012, the 6x6 Mk III is the current production standard of the VAB series of 4x4 and 6x6 APCs. Compared to the original VAB, the Mk III can carry a heavier payload and offers a greater level of protection, particularly against mine blasts. It is marketed by Arquus and by its American subsidiary Mack Defense, which manufactures it under licence as the Lakota. **Length:** 7.3m **Width:** 2.65m **Height:** 2.5m **Ground clearance:** 0.38m **Weight:** 20t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 10



Arquus/Nexter Systems/Thales ► Griffon VBMR

The Griffon Véhicule Blindé Multi-Rôles (VBMR) is a 6x6 multirole armoured vehicle manufactured by a consortium formed of Nexter Systems, Arquus (formerly Renault Trucks Defense) and Thales. It is a major component of the French MoD's Scorpion armoured vehicle procurement programme. **Width:** 2.5m **Height:** 3m **Weight:** 24.5t **Max speed:** 110km/h **Range (on road):** 800km **Crew:** 3 **Passengers:** 11



Defence Land Systems India ► Mahindra MPVi

The Mahindra MPVi (sometimes called the MPV-I or MRAP) is a heavily protected mine-resistant 6x6 armoured personnel carrier. It is manufactured by Defence Land Systems India, a joint venture of BAE Systems and Mahindra & Mahindra. It is being fielded by the UN for peacekeeping missions to help in the removal of roadside IEDs. Cambodia is a potential future customer. **Weight:** 14t **Max speed:** 100km/h **Crew:** 4 **Passengers:** 10



Dongfeng Off-road Vehicles Co. ► Warrior MCTB

The Dongfeng Warrior EQ2101 MCTB provides tactical support for infantry teams, equipment transportation and provides platforms for light-duty artillery, maintenance and medical rescue tasks. **Length:** 6.45m **Width:** 2.38m **Height:** 2.06m **Weight:** 10t **Max speed:** 120km/h **Range (on road):** 500km **Crew:** 2 **Passengers:** 2



FNSS Savunma Sistemleri A.Ş. ► Pars III 6x6

FNSS publicly launched the Pars III 6x6 (Turkish for Anatolian Leopard), at the IDEF 2015 exhibition. It has been developed with a special emphasis on mobility, protection, payload and growth potential. **Length:** 7m **Width:** 2.9m **Height:** 2.4m **Ground clearance:** 0.5m **Weight:** 25t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 3 **Passengers:** 6



FNSS Savunma Sistemleri A.Ş. ► Pars IV 6x6

Unveiled in July 2020, the Pars IV 6x6 was developed to meet the requirements of Turkish SOF units for a highly manoeuvrable yet well-protected armoured vehicle. Heavier and larger than the Pars III 6x6, the Pars IV offers a higher level of blast protection, adjustable hydropneumatic suspension and an updated electronic architecture able to accommodate an increased number of subsystems. **Length:** 7m **Width:** 3m **Height:** 3.5m **Weight:** 26t **Max speed:** 100km/h **Range (on road):** 700km



FNSS Savunma Sistemleri A.Ş. ▶ Pars Scout 6x6

Introduced at the May 2017 IDEX exhibition, the Pars Scout 6x6 was developed to compete for the Turkish Special Purpose Tactical Wheeled Armored Vehicle (ÖMTTZ) project to acquire a locally made vehicle for reconnaissance and internal security. The Pars Scout builds on the Pars III 6x6 but introduces an enlarged cab to improve the situational awareness of the crew and a redesigned armoured body to facilitate the integration of modular armour. An 8x8 version of the Pars Scout is also being designed for the Turkish Army. **Length:** 7m **Width:** 3m **Height:** 2.5m **Weight:** 25t **Max speed:** 100km/h **Range (on road):** 700km **Crew:** 2



Gaia Automotive Industries ▶ Amir 6x6

Gaia's 6x6 Amir is the newest addition to the Amir family. It includes a 4x4 model and was displayed publicly for the first time at the June 2018 Eurosatory exhibition. The Amir 6x6 can be configured for various missions, including personnel carrier, reconnaissance, weapons carrier, air defence, ambulance and logistics. Gaia has teamed with Elbit to offer the Amir 6x6 fitted with an Elbit Systems UT30 unmanned turret to the Philippine Army. **Weight:** 13t **Crew:** 2 **Passengers:** 10



General Dynamics European Land Systems ▶ Pandur EVO

The Pandur EVO is a 6x6 APC that features a new longer hull design, driveline technology and powerpack, which provide a significantly increased level of protection, payload and mobility compared to the Pandur I. It is operated by a crew of three and carries eight dismounts who enter and exit the vehicle via a ramp in the rear of the vehicle instead of the doors fitted on the Pandur I. **Crew:** 3 **Passengers:** 8



General Dynamics European Land Systems – Mowag ► DURO IIIP

The DURO IIIP (also known as the GMTF) 6x6 is a protected, mobile off-road armoured vehicle based on the DURO (Durable, Robust) family of 4x4 and 6x6 vehicles developed in the early 1990s for military applications. The DURO IIIP can be configured for various roles such as personnel transport, ambulance, logistics, command, communication or military police tasks. **Length:** 6.8m **Width:** 2.2m **Height:** 2.7m **Ground clearance:** 0.4m **Weight:** 13.5t **Max speed:** 100km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 12



General Dynamics European Land Systems – Steyr/Pindad (Persero)/Tatra ► Pandur II

The Pandur II is a development of the 6x6 Pandur that was introduced in the mid-1980s. The first prototype of the Pandur II, which is available in 6x6 and 8x8 models, was completed in 2001. The hull is of all-welded steel with armour upgrades available. It can be equipped with turrets mounting weapons up to 105mm in calibre. An amphibious version is also available. Additionally, the vehicle is designed to be carried by C-130 aircraft. **Length:** 7.5m **Width:** 2.67m **Height:** 2.1m **Ground clearance:** 0.5m **Weight:** 22t **Max speed:** 105km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 12



Hanwha Defense ► Tigon

Hanwha Defense Systems selected DSA 2018 in Kuala Lumpur as the location to unveil its Tigon 6x6 armoured wheeled vehicle. The company was expected to conduct a fortnight-long trial with the Malaysian Army for this new-generation vehicle directly after the exhibition. The Tigon is a successor to the Black Fox, which was developed by Doosan DST and was acquired by the Indonesian Army. **Weight:** 22t **Max speed:** 110km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 9



Hyundai Rotem ▶ K806 WAV

Hyundai Rotem began to develop the KW1 Scorpion 6x6 armoured vehicle in 2012 as a private venture to meet the requirements of the Republic of Korea Army (ROKA) for a Wheeled Armoured Vehicle (WAV). After a competitive evaluation, the KW1 and KW2 8x8 were adopted by the ROKA as the K806 and K808, respectively. Lighter, less heavily armoured and lacking the amphibious capability of its 8x8 counterpart, the K806 is designed for security duties, convoy escort and reconnaissance missions behind the front lines.

Length: 6.8m **Width:** 2.7m **Height:** 2.2m **Weight:** 16t
Max speed: 100km/h **Range (on road):** 800km **Crew:** 2
Passengers: 9



Iveco Defence Vehicles ▶ Guaraní 6x6 (VBTP)

Iveco Defence Vehicles developed its APC 6x6 platform to meet a requirement from the Brazilian Army for a Medium Wheeled APC (VBTP-MR). Known as the Guaraní in Brazilian service, this 17-20t-class amphibious vehicle is expected to form the basis of a family of specialised variants ranging from a conventional APC to mortar carrier and reconnaissance vehicle. **Length:** 7.1m

Width: 2.8m **Height:** 2.4m **Ground clearance:** 0.45m

Max speed: 105km/h **Range (on road):** 600km **Crew:** 3
Passengers: 8



Jordan Design and Development Bureau (JODDB) ▶ Al-Fares

The Al-Fares is a 6x6 armoured vehicle designed and manufactured in Jordan. It is based on the Belarusian Volat 6x6 all-terrain chassis and can be adapted for different purposes, including C2, combat logistics or border security. Up to 11 people can be accommodated in its armoured hull, with the possibility to also mount weapon systems on the roof. **Length:** 7.46m **Width:** 2.56m **Height:** 2.77m **Ground clearance:** 0.4m **Weight:** 24t **Max speed:** 110km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 8



Nexter Systems ► TITUS

Nexter Systems unveiled the Tactical Infantry Transport & Utility System (TITUS) 6x6 modular armoured vehicle at DSEI 2013. TITUS was developed for the export market as a private venture over the previous two years. It was displayed at the exhibition as a troop carrier equipped with a Nexter ARX20 RWS armed with a 20mm cannon, 7.62mm coaxial machine gun and Galix grenade launcher. **Length:** 7.55m **Width:** 2.55m **Height:** 2.73m **Weight:** 27t **Max speed:** 110km/h **Range (on road):** 700km **Crew:** 3 **Passengers:** 10



Nimr Automotive ► Hafeet

Developed by Nimr Automotive at its facility in the UAE, the Hafeet family comprises a range of 6x6 vehicles based upon common chassis and driveline components. Able to accommodate a mass of up to 15t, the Hafeet can be customised to perform a wide variety of roles, including utility, patrol, C2 and battlefield ambulance. In order to meet specific customer requirements, it is available in both armoured and unarmoured configurations and supports the integration of different weapons, C4I systems and auxiliary equipment. More than 150 Hafeets have been ordered by the UAE Armed Forces and the system is also marketed to potential export customers alongside the Ajban 4x4 series of armoured vehicles. **Length:** 6.9m **Width:** 2.3m **Height:** 2.2m **Ground clearance:** 0.45m **Weight:** 15t **Payload:** 3,500kg **Max speed:** 110km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 0



Nimr Automotive ► Hafeet Mk2

The Hafeet Mk2 is an evolution of Nimr's first-generation Hafeet family of multirole 6x6 armoured vehicles. Designed to provide greater payload, protection, mobility and modularity over its predecessor, it introduces a monocoque V-shaped armoured hull for increased blast protection and can accommodate a payload of up to 3,000kg. The Hafeet Mk2 can be configured for multiple roles, including APC, ambulance, artillery observation and surveillance. **Length:** 7m **Width:** 2.45m **Height:** 2.35m **Weight:** 16.5t **Range (on road):** 650km **Crew:** 2 **Passengers:** 8



Nimr Automotive ► Jais (N35)

The Jais 4x4 (then known as the RG35) was unveiled in September 2009 by BAE Systems Land Systems South Africa (LSSA). The Jais is part of a family of vehicles, with several variants available, including ambulance, weapon carrier and command post. All are available in either 4x4 or 6x6 configurations with over 90% commonality. Additionally, the Jais can carry light and medium turrets. **Length:** 7.2m **Width:** 2.6m **Height:** 2.7m **Ground clearance:** 0.42m **Weight:** 24t **Max speed:** 105km/h **Range (on road):** 1,000km **Crew:** 3 **Passengers:** 13



Norinco ► VN2C

The VN2C 6x6 armoured vehicle was introduced at the Zhuhai Airshow in November 2016. Aimed at the export market, it appears to be an updated version of Norinco's older WZ551 offering increased blast protection. **Weight:** 19t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 3 **Passengers:** 8



Norinco ► VN22

The VN22 is a 6x6 armoured vehicle unveiled by Norinco at the Zhuhai Airshow in September 2021. Little is known about this vehicle's capabilities, but the version displayed at Zhuhai featured an unmanned turret armed with a 30mm cannon, 7.62mm coaxial machine gun and a pop-up launcher for two ATGMs. The designation indicates that this vehicle will be offered for export, but it is unclear if the PLA will also show an interest. **Max speed:** 115km/h **Crew:** 3 **Passengers:** 9



Nurol Makina ve Sanayi ► Ejder

The Ejder is a fully amphibious 6x6 APC developed by Nurol from 2006 as a private venture to provide a vehicle which combines a high level of ballistic and mine/IED protection with mobility in extreme terrain and climatic conditions. **Length:** 7m **Width:** 2.9m **Height:** 2.4m **Ground clearance:** 0.4m **Weight:** 18t **Max speed:** 110km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 10



Otokar ► Arma 6x6

Otokar began development of the Arma family of amphibious vehicles in 2007 under a company-funded project for the domestic and export markets, and in June 2010, the company unveiled a 6x6 prototype. The Arma provides protection against ballistic and mine threats by means of a monocoque V-shaped high-hardness steel hull. **Length:** 6.5m **Width:** 2.7m **Height:** 2.22m **Ground clearance:** 0.42m **Weight:** 18.5t **Max speed:** 105km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 8



Paramount Group ► Mbombe 6

The Mbombe 6 is the 6x6 version of the Mbombe family of armoured vehicles developed by South Africa's Paramount Group. In order to drive down costs, the vehicle uses COTS components where possible. Its hull can withstand a 10kg mine blast and can be configured for different roles, including IFV, ambulance and command post. The vehicle is manufactured under licence by Kazakhstan Paramount Engineering (KPE) as the Barys 6 and by the Jordan Design and Development Bureau (JODDB). **Length:** 7.7m **Width:** 2.5m **Height:** 2.3m **Ground clearance:** 0.43m **Weight:** 22.5t **Max speed:** 115km/h **Range (on road):** 1,000km **Crew:** 3 **Passengers:** 8



Patria Land ▶ Patria 6x6

Patria developed the Patria 6x6 APC, unveiled at the June 2018 Eurosatory exhibition, as a successor to the XA-series Pasi APC and to complement Patria's 8x8 Armoured Modular Vehicle family, which has been selected by the armies of eight countries. Like the Pasi, the Patria 6x6 is intended to be a cost-effective truck-like platform that is easy to operate and maintain. **Length:** 7.5m **Width:** 2.9m **Height:** 2.5m **Weight:** 24t **Max speed:** 100km/h **Range (on road):** 700km **Crew:** 3 **Passengers:** 10



Pindad (Persero) ▶ Anoa

Pindad designed the 6x6 Anoa APC to meet the requirements of the Indonesian Army. Since the vehicle was publicly unveiled in November 2008, close to 300 have been built. Brunei ordered 15 vehicles in 2011 and several countries in the Middle East and the Asia-Pacific region have been cited as potential export customers. **Length:** 6m **Width:** 2.5m **Height:** 2.17m **Ground clearance:** 0.4m **Weight:** 12.5t **Max speed:** 90km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 10



Pindad (Persero) ▶ Badak

A prototype of the 90mm-armed 6x6 Badak (Indonesian for rhinoceros) direct fire support vehicle was unveiled at IndoDefence in November 2014 by Pindad and partner John Cockerill Defense. The Indonesian Army (TNI-AD) ordered 50 vehicles in January 2016; however, the TNI-AD later reduced the quantity to 14 units. In addition, the Indonesian Army's five-year defence plan for the period 2020-2024 outlined plans to procure an additional 52 units by 2023, 18 in 2020, 18 in 2021 and 16 in 2022. The order status of these additional 52 is unknown, but seven units were delivered in January 2022. **Length:** 6m **Width:** 2.5m **Height:** 2.9m **Ground clearance:** 0.4m **Weight:** 11t **Max speed:** 90km/h **Range (on road):** 600km **Crew:** 3



Poly Technologies ▶ Type 05P

The Type 05P is an upgraded export version of the Chinese WZ 523 6x6 APC marketed by Poly Technologies. Along with its predecessor, it has been exported to several African countries.

Length: 6.33m **Width:** 2.5m **Height:** 2.67m **Ground clearance:** 0.4m **Weight:** 11.7t **Max speed:** 95km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 7



Practika ▶ Otaman 6x6

First unveiled in 2016 at Defexpo in India, the Otaman 6x6 was designed by Practika to meet the requirements of the Armed Forces of Ukraine and potential export customers. It is marketed as a modular vehicle that can be operated in an armoured personnel carrier and infantry fighting vehicle capacity, depending on if it has a BM-3 Shturm turret equipped. The Otaman 6x6 offers STANAG 4569 Level 3 blast and up to STANAG 4569 Level 4 ballistic protection. **Length:** 6.5m **Width:** 2.66m **Height:** 2.45m **Ground clearance:** 0.45m **Weight:** 23t **Max speed:** 110km/h **Range (on road):** 800km **Crew:** 4 **Passengers:** 6



Protolab ▶ MiSu PMPV

The Protected Multi-Purpose Vehicle (PMPV) is a 6x6 armoured vehicle developed by Protolab that can function as an armoured personnel carrier, cargo transport, ambulance or command and control vehicle. It is also referred to as the MiSu (Mine-Protected). Reflecting an increased focus on conflicts in urban environments among military planners around the world, the vehicle has several design features to make it more manoeuvrable in confined spaces. Protolab is offering the PMPV to the Finnish Defence Forces (FDF) and potential export customers, who can opt to acquire the vehicle through direct commercial sales or through technology transfer arrangements.

Length: 7.44m **Width:** 2.55m **Height:** 2.700m **Weight:** 14t **Max speed:** 110km/h **Range (on road):** 900km **Crew:** 2 **Passengers:** 10



Remdiesel ▶ Kamaz-63968 Taifun-K

The Kamaz-63968 Taifun-K (Typhoon-K) is part of the Taifun family of mine-resistant armoured vehicles manufactured by Kamaz subsidiary Remdiesel. One of the two 6x6 variants of the family, the Kamaz-63968 is an APC variant capable of accommodating up to 16 dismounts. Like the other members of the Taifun-K family, it utilises several common components and features a V-shaped armoured hull designed to withstand small-arms fire, mines and IEDs. Following successful trials, the Kamaz-63968 entered service with the Russian armed forces.

Length: 8.2m **Width:** 2.5m **Height:** 2.93m **Ground clearance:** 0.57m **Weight:** 24t **Max speed:** 105km/h **Range (on road):** 1,200km **Crew:** 2 **Passengers:** 16



Rheinmetall MAN Military Vehicles ▶ Fuchs 1

The Fuchs 1A8 is the latest version of the German Army's standard wheeled armoured personnel carrier. The army received 1,125 Fuchs, with most delivered in 1979-86. Countries the Fuchs 1 was exported to include the Netherlands, the US (as the M93 Fox) and Venezuela. Under present plans, the German Army will retain 728. **Length:** 7.3m **Width:** 3m **Height:** 2.4m **Weight:** 18t **Max speed:** 97km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 8



Rheinmetall MAN Military Vehicles ▶ Fuchs 2

Rheinmetall developed the Fuchs 2 6x6 between 2001 and 2005 with the international market in mind. Based on the Fuchs 1, the new vehicle has a more powerful engine, improved mobility, a heavier payload and greater stowage capacity, as well as a central tyre inflation system. **Length:** 6.83m **Width:** 2.98m **Height:** 2.42m **Ground clearance:** 0.4m **Weight:** 22t **Max speed:** 96km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 10



Streit Group ► Varan

Streit unveiled the Varan 6x6 amphibious armoured vehicle at the IDEX defence exhibition in February 2013. The vehicle can be fitted with additional ballistic protection up to STANAG 4569 Level 4, while the V-shaped monocoque is designed to disseminate the impact of mine blasts. **Length:** 6.51m **Width:** 2.82m **Height:** 2.77m **Ground clearance:** 0.36m **Weight:** 21t **Max speed:** 110km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 8



Textron Systems Marine & Land Systems ► Cottonmouth

The Cottonmouth is a purpose-built 6x6 amphibious reconnaissance vehicle designed by Textron Systems to meet the requirements of the USMC's Advanced Reconnaissance Vehicle (ARV) programme. It is built around an open architecture to facilitate the integration of a range of sensors, C4I equipment and weapons stations. An initial prototype of Cottonmouth was unveiled in April 2021 and is undergoing testing with the USMC. **Crew:** 2 **Passengers:** 5



Ukrinmash ► Fiona

The Fiona is a 6x6 MRAP armoured vehicle based on the underpinnings of the KrAZ-6322 all-wheel-drive off-road cargo truck. Publicly unveiled for the first time at IDEX 2015 in the UAE, this vehicle was developed by the Kremenchug Automotive Plant for sale both at home and abroad. It is marketed as an off-road mine-protected vehicle that can be used to transport SF personnel, cargo or equipment across difficult terrain. **Length:** 7.48m **Width:** 2.55m **Height:** 3.18m **Max speed:** 80km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 14



Ural Automotive Plant ► Ural-63095 Taifun-U

The Ural-63095 Taifun-U (Typhoon-U) is a 6x6 multipurpose mine-resistant vehicle developed by Ural to meet a requirement from the Russian Armed Forces for a new family of MRAPs. Although it functions as a basic APC in its standard configuration, its modular construction allows for the troop compartment to be exchanged for other specialised mission modules should the vehicle need to be adapted to carry out different roles. Part of a family of 4x4 and 6x6 MRAPs developed by Ural, the Ural-63095 was adopted in limited numbers by the Russian Armed Forces as the Taifun-U. Ultimately, it lost out to a competing design offered by Kamaz. **Length:** 9.27m **Width:** 2.55m **Height:** 3.4m **Ground clearance:** 0.5m **Weight:** 22.5t **Max speed:** 100km/h **Range (on road):** 1,000km **Crew:** 3 **Passengers:** 14



Zastava TERVO ► M-20

The 6x6 M-20 mine-resistant ambush protected vehicle is jointly developed by Zastava TERVO, Fabrika automobila Priboj and the Belgrade Military Technical Institute. The vehicle is powered by a Daimler Chrysler OM 906 6-cylinder, 279hp diesel engine, which is coupled to a ZF 9S 109 automatic transmission. Equipped with a 12.7mm machine gun, the M-20 has the capacity to carry up to 12 people, including three crew members. **Crew:** 3 **Passengers:** 9



8x8 APCs/IFVs ► Al Jasoor/Otokar ► Rabdan

Rabdan is an 8x8 IFV developed by Al Jasoor, a JV company between Tawazun Holdings and Otokar UAE, a subsidiary of Otokar. It is a longer, heavier variant of Otokar's 8x8 Arma IFV. In February 2017, 400 were ordered by the UAE, 100 of which will be manufactured by Otokar in Turkey, with the remainder produced by Nimr in the UAE. **Length:** 8m **Width:** 3.25m **Height:** 2.3m **Weight:** 28t **Max speed:** 105km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 10



ARTEC/Rheinmetall BAE Systems Land ► Boxer

The 8x8 Boxer is produced by ARTEC, a JV between KMW, Rheinmetall MAN Military Vehicles and Rheinmetall Military Vehicles Nederland, to meet the requirements of several militaries for a well-protected APC. Boxer's modular construction allows a range of mission-specific variants, while a protection system against mines, IEDs and ballistic threats contributes to crew survivability. Since entering service with the German and Dutch armies, the Boxer has been exported to several other militaries and the UK, one of the original partners in the multinational programme, has opted to procure the Boxer to meet its Mechanised Infantry Vehicle requirement.

Length: 7.93m **Width:** 2.99m **Height:** 2.37m **Ground clearance:** 0.5m **Weight:** 33t **Max speed:** 103km/h **Range (on road):** 1,050km **Crew:** 3 **Passengers:** 8



BAE Systems Platforms & Services ► ACV

BAE Systems teamed with Iveco Defence to offer a version of Iveco Defence Vehicle's Superav for the USMC's Armored Combat Vehicle Phase 1 Increment 1 (ACV 1.1) requirement. Following trials, this amphibious platform was selected by the USMC in June 2018 to replace its fleet of legacy AAV-7 tracked vehicles. Featuring a blast-resistant hull and Iveco's H-Drive system, it can transport troops from ship to shore and then continue the fight inland. Although the USMC originally intended to procure another platform to meet the ACV 1.2 requirement for a ship-to-shore transport, the two requirements were consolidated in early 2019 after the BAE Systems offering demonstrated its ability to deliver the desired capability.

Length: 8.9m **Width:** 3.1m **Height:** 2.8m **Weight:** 30t **Max speed:** 105km/h **Range (on road):** 523km **Crew:** 3 **Passengers:** 13



BMC Otomotiv Sanayi ve Ticaret ► Altuğ

The Altuğ 8x8 armoured vehicle is being developed for the Turkish Army's New Generation - Wheeled Armoured Vehicle programme. It is designed to be well-protected against blast and ballistic threats, yet still mobile and manoeuvrable enough to operate in confined spaces. Due to its modular design, it can be adapted to different roles, such as APC, IFV or fire support vehicle. **Length:** 8.33m **Width:** 3.05m **Height:** 2.65m **Weight:** 35t **Max speed:** 110km/h **Range (on road):** 800km **Crew:** 3 **Passengers:** 9



Calidus ▶ Wahash

The Wahash (Falcon) is an amphibious 8x8 IFV developed to meet UAE and, more broadly, Middle Eastern requirements for a well-protected armoured vehicle capable of operating in hot desert environments. Originally designed in South Africa by ADG Mobility in conjunction with UAE-based Calidus, a prototype of the vehicle was first unveiled at IDEX 2019, although no customers had been secured at that time.

Length: 8.5m **Height:** 2.7m **Weight:** 32.1t **Max speed:** 130km/h
Range (on road): 700km **Crew:** 3 **Passengers:** 8



CIO Consorzio Iveco-Oto Melara ▶ Freccia

The Freccia 8x8 was developed by CIO to meet an Italian Army requirement for an IFV derived from the 105mm-armed Centauro cavalry vehicle to equip its medium forces. The Freccia IFV is equipped with the HITFIST Plus turret armed with a stabilised Oerlikon 25mm dual-feed KBA cannon and a 7.62mm coaxial machine gun. The antitank version is equipped with the Rafael Spike long-range ATGM mounted on the side of the HITFIST. **Length:** 8.56m **Width:** 2.99m **Height:** 2.04m

Ground clearance: 0.41m **Weight:** 30t **Max speed:** 110km/h
Range (on road): 800km **Crew:** 2 **Passengers:** 8



Defence Research & Development Organisation/Tata Motors ▶ WhAP

The Wheeled Amphibious Armoured Platform (WhAP) is being designed and developed in collaboration with India's Defence Research and Development Organisation (DRDO) to meet an Indian Army requirement for a wheeled IFV. Tata plans to offer five variants: IFV/APC; ambulance; NBC reconnaissance; command post; and combat engineer. Originally called the Kestrel, the WhAP can be equipped with a variety of weapon stations and turrets. Depending on the selected turret, the vehicle will carry a driver, commander, gunner and a section of up to nine soldiers. **Length:** 7.8m **Width:** 2.95m **Height:** 2.28m
Ground clearance: 0.45m **Weight:** 26t **Max speed:** 100km/h
Range (on road): 500km **Crew:** 2 **Passengers:** 10



Defence Technology Institute ► Amphibious Armoured Personnel Carrier

Thailand's Defence Technology Institute (DTI) displayed the prototype of the 8x8 Amphibious Armoured Personnel Carrier (AAPC) it is developing for the Royal Thai Marine Corps (RTMC) at the November 2017 Defence & Security exhibition. The AAPC is a derivative of the 8x8 Black Widow Spider which DTI developed for the Royal Thai Army. The two vehicles also share 90% of their components. **Length:** 7m **Ground clearance:** 0.5m **Weight:** 30t **Max speed:** 110km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 11



Defence Technology Institute ► Black Widow Spider

Thailand's state-owned Defence Technology Institute displayed a prototype of the 8x8 Black Widow Spider armoured fighting vehicle during the Defence & Security show in 2015 for the first time. It is being developed under the Wheeled Armoured Vehicle Research and Development Project. ST Engineering (gun, battle management system) and IMI (armour) are also assisting a local industry team led by Preecha Taworn. **Length:** 7m **Ground clearance:** 0.5m **Weight:** 24t **Max speed:** 100km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 9



DefTech DRB-HICOM Defence Technologies/FNSS Savunma Sistemleri A.Ş. ► AV8 Gempita

DefTech, with the assistance of FNSS, developed the 8x8 AV8 family on the basis of the latter's Pars III 8x8 to meet the requirements of the Malaysian Army for a new generation of vehicles offering improved mobility, protection, payload and growth potential. **Length:** 7.98m **Width:** 2.82m **Height:** 2.32m **Weight:** 24t **Max speed:** 100km/h **Range (on road):** 700km **Crew:** 3 **Passengers:** 11



Denel Vehicle Systems ► RG41

The RG41 is an 8x8 armoured combat vehicle designed to meet mobility, protection and firepower requirements, with an emphasis on combat power. Denel Vehicle Systems (DVS), formerly BAE Systems Land Systems South Africa, began development of the RG41 in 2008 and unveiled a prototype at Eurosatory in June 2010 fitted with the company's new TRT-25 RCWS. **Length:** 7.8m **Width:** 2.8m **Height:** 2.4m **Ground clearance:** 0.44m **Weight:** 30t **Max speed:** 100km/h **Range (on road):** 700km **Crew:** 1 **Passengers:** 10



Emirates Defense Technology ► Enigma

Unveiled in 2015, the Enigma is an 8x8 armoured personnel carrier. The vehicle is 8.3m long and 2.8m wide. It has a height of 2.39m in combat mode and 2.25m in transport mode. It has a combat weight of 28t with a payload of 35% of its combat weight. **Length:** 8.3m **Width:** 2.8m **Height:** 2.39m **Weight:** 28t **Max speed:** 130km/h **Crew:** 3 **Passengers:** 8



EVPU/Konštrukta – Defence/Patria Land ► AMVxp

Patria launched an 8x8 armoured concept vehicle, now named AMVxp, at the DSEI exhibition in September 2013. The AMVxp builds on Patria's experience producing the 8x8 AMV, offering increased protection, payload and mobility over the standard vehicle. **Length:** 8.4m **Width:** 2.8m **Height:** 2.4m **Weight:** 32t **Max speed:** 100km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 10



FFG Flensburger Fahrzeugbau Gesellschaft ► Genesis

The Genesis 8x8 armoured vehicle was unveiled by FFG in September 2020. Featuring a full hybrid electric powertrain, it is intended to demonstrate technology that could inform the future of hybrid-electric propulsion for heavily armoured vehicles. **Length:** 8.25m **Width:** 2.25m **Height:** 2.4m **Weight:** 40t **Max speed:** 100km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 10



FNSS Savunma Sistemleri A.Ş. ► Pars III 8x8

FNSS publicly launched the Pars III 6x6 and Pars III 8x8 vehicles, the latest generation of the Pars (Turkish for Anatolian Leopard) AFV family, at the IDEF 2017 exhibition. The company began development of the Pars family in 2002 to meet potential Turkish Army and export requirements. **Length:** 8m **Width:** 3m **Height:** 2.4m **Ground clearance:** 0.5m **Weight:** 30t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 3 **Passengers:** 9



FNSS Savunma Sistemleri A.Ş. ► Pars IV 8x8

The Pars IV 8x8 is being developed by FNSS to compete for the Turkish Army's New Generation - Wheeled Armoured Vehicle programme. Designed to offer a greater level of protection and increased mobility over the Pars III 8x8, the heavier Pars IV 8x8 has a more powerful engine, hydropneumatic suspension, all-wheel steering and greater resistance to ballistic and blast attacks. **Length:** 8.4m **Width:** 3.1m **Height:** 2.5m **Weight:** 35t **Max speed:** 100km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 9



FNSS Savunma Sistemleri A.Ş. ► Pars Scout 8x8

The Pars Scout 8x8 is being developed alongside the Pars Scout 6x6 to meet a requirement from the Turkish Land Forces Command for a Special Purpose Tactical Wheeled Armoured Vehicle family. Although it shares many of its features with the Pars III, the Pars Scout 8x8 features an enlarged cab offering greater situational awareness for the crew and makes use of flat surfaces to facilitate the integration of additional armour.

Length: 8m **Width:** 3m **Height:** 2.5m **Max speed:** 100km/h
Range (on road): 700km **Crew:** 2



General Dynamics European Land Systems – Mowag ► Piranha 3+/Piranha IV

The Piranha 3+/Piranha IV 8x8 vehicle is the latest version of the widely deployed Piranha 3/LAV III AFV series. The vehicle provides increased levels of protection, off-road mobility and inherent growth. With a 25-27t gross vehicle weight, the Piranha 3+ can carry a 10t payload compared to the 8t carried by the 22t Piranha 3. It is longer, wider and higher than the current Piranha 3 with greater internal volume. **Length:** 7.77m **Width:** 2.8m **Height:** 2.31m **Ground clearance:** 0.43m **Weight:** 27t **Max speed:** 110km/h **Range (on road):** 750km **Crew:** 3 **Passengers:** 9



General Dynamics European Land Systems – Mowag ► Piranha III

The Piranha III 8x8 APC, available in amphibious or non-amphibious versions, is designed to be ergonomic, easy to operate and provide good overall levels of protection and mobility. As the armour system is modular, it can be tailored to meet the user's operational requirements. The first two pre-production Piranha III vehicles were built by 1996 in a 6x6 configuration and fitted with a roof-mounted machine gun. **Length:** 7.3m **Width:** 2.7m **Height:** 2.2m **Ground clearance:** 0.6m **Weight:** 22t **Max speed:** 100km/h **Range (on road):** 750km **Crew:** 2 **Passengers:** 12



GDELS – Mowag/GDELS – Santa Bárbara Sistemas ▶ Piranha V

The Piranha V, the latest member of General Dynamics European Land System's (GDELS) Piranha family of wheeled armoured fighting vehicles, introduced a vehicle in the upper weight class. Unveiled in mid-2010, the Piranha V offers improvements in the areas of survivability, mobility and firepower. It can be configured as an infantry fighting vehicle or armoured personnel carrier, as well as for specialist roles such as EW, ambulance, reconnaissance, command, mortar and direct fire with turrets of up to 120mm calibre. **Length:** 8m **Width:** 3m **Height:** 2.3m **Weight:** 33t **Max speed:** 100km/h **Range (on road):** 550km **Crew:** 3 **Passengers:** 8



General Dynamics European Land Systems – Steyr/Pindad (Persero)/Tatra ▶ Pandur II

The Pandur II is a development of the 6x6 Pandur that was introduced in the mid-1980s. The first prototype of the Pandur II, which is available in 6x6 and 8x8 models, was completed in 2001. The hull is of all-welded steel with armour upgrades available. It can be equipped with turrets mounting weapons up to 105mm in calibre. An amphibious version is also available. Additionally, the vehicle is designed to be carried by C-130 aircraft. **Length:** 7.5m **Width:** 2.67m **Height:** 2.1m **Ground clearance:** 0.5m **Weight:** 22t **Max speed:** 105km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 12



General Dynamics Land Systems ▶ Stryker

In 2000, the US Army selected a variant of the GDL-Canada 8x8 LAV III to meet its requirement for a Medium Interim Armored Vehicle to provide a strategic rapid deployment force. Known as the Stryker, more than 4,200 of these vehicles were ordered in several different variants to equip Stryker Brigade Combat Teams. Many of these vehicles are now being upgraded with a Double-V Hull to provide greater survivability against mines and IEDs. **Length:** 6.99m **Width:** 2.72m **Height:** 2.64m **Ground clearance:** 0.47m **Weight:** 17.24t **Max speed:** 100km/h **Range (on road):** 530km **Crew:** 2 **Passengers:** 9



General Dynamics Land Systems – Canada ► LAV II DVH

The Light Armoured Vehicle II Double V-Hull (LAV II DVH) is an upgraded variant of the LAV II 8x8 armoured vehicle developed by General Dynamics Land Systems - Canada (GDLS-C) to improve the platform's blast protection without comprising on its mobility or payload capacity. Compared to the standard LAV II, the most notable changes are the addition of a double V-shaped hull and an updated driveline featuring a more powerful engine. GDLS-C is marketing the LAV II DVH as an upgrade to users of the standard LAV II, such as Saudi Arabia, as well as a new-production vehicle. **Weight:** 18.6t **Crew:** 3 **Passengers:** 4



General Dynamics Land Systems – Canada ► LAV III

General Dynamics Land Systems-Canada (GDLS-C) has produced derivatives of the Piranha series, branded the Light Armoured Vehicle (LAV), since the Canadian Army selected the 6x6 Piranha for its Armoured Vehicle General Purpose requirement in 1977. Altogether 651 LAV IIIs were delivered to Canada beginning in 1997, the majority of which have been upgraded to the new LAV 6.0 standard. New Zealand has also procured the LAV III under the designation of New Zealand Light Armoured Vehicle (NZLAV). **Length:** 7m **Width:** 2.7m **Height:** 2.8m **Ground clearance:** 0.6m **Weight:** 17t **Max speed:** 100km/h **Range (on road):** 500km **Crew:** 3 **Passengers:** 7



General Dynamics Land Systems – Canada ► LAV 700

GDLS displayed the LAV 700 8x8, the newest member of its Light Armoured Vehicle (LAV) series, for the first time at the February 2017 IDEX exhibition. The LAV 700 incorporates many of the improvements introduced in the LAV 6.0 upgrade of the Canadian Army's LAV III and latest US Army Stryker vehicles. **Length:** 8.2m **Width:** 3m **Height:** 2.8m **Weight:** 32t **Max speed:** 110km/h **Range (on road):** 1,000km



Hanwha Defense ► Black Fox 8x8

Doosan's Black Fox family of 6x6 and 8x8 AFVs was developed to compete for a Republic of Korea Army requirement. Although not selected for the South Korean contract, Doosan markets the vehicles for potential export customers. The first prototype was unveiled in 2003 and the 6x6 and 8x8 have since been demonstrated in various configurations. **Weight:** 24t

Max speed: 100km/h **Range (on road):** 640km **Crew:** 3
Passengers: 9



Hyundai Rotem ► K808 WAV

Hyundai Rotem began to develop the KW2 8x8 armoured vehicle in 2012 as a private venture to meet the requirements of the Republic of Korea Army (ROKA) for a Wheeled Armoured Vehicle. After a competitive evaluation, the KW1 Scorpion 6x6 and KW2 were adopted by the ROKA as the K806 and K808, respectively. More heavily armoured than the K806 and possessing an amphibious capability, the K808 is designed to fulfil a range of frontline combat duties and can be adapted to specialised roles such as air defence, mortar carrier and command post. **Length:** 7.4m **Width:** 2.7m **Height:** 2.9m
Weight: 20t **Max speed:** 100km/h **Crew:** 2 **Passengers:** 9



Israel Defense Forces ► Eitan

The Israel Defense Forces (IDF) unveiled the Eitan 8x8 APC demonstrator on 1 August 2016. It is the first wheeled APC developed for the IDF by the MoD's Tank Programme Administration (MANTAK) and is designed to replace some of the army's US-supplied tracked M113s, offering higher levels of protection. The development of the Eitan was influenced by lessons learned from Operation Protective Edge against Hamas in Gaza in 2014. **Length:** 8m **Weight:** 35t **Max speed:** 144km/h
Range (on road): 1,000km **Crew:** 3 **Passengers:** 9



Iveco Defence Vehicles ► Superav 8x8

Capable of ship-to-shore and beyond operations in sea state 3+, the Superav 8x8 is designed to offer a high level of mobility on land and at sea, as well as a high level of protection, according to the manufacturer. It can carry an overhead weapon station mounting up to a 40mm cannon. A version of the Superav 8x8 is being manufactured by BAE Systems Inc. for the USMC's Amphibious Combat Vehicle (ACV) programme. **Length:** 8.8m **Width:** 3.1m **Height:** 2.8m **Weight:** 30t **Max speed:** 105km/h **Range (on road):** 800km **Crew:** 3 **Passengers:** 13



Iveco Defence Vehicles ► Superav Land

The Superav Land 8x8 is a modular vehicle with a large diameter turret ring that can be adjusted to fit a wide variety of remote-controlled turreted weapon systems. Sharing 85% of its components with the amphibious Superav 8x8, the shorter, lower Superav Land can accommodate a greater payload and can be armoured to offer a higher level of protection than its amphibious counterpart, according to the manufacturer.

Length: 8.3m **Width:** 3.1m **Height:** 2.7m **Weight:** 30t **Max speed:** 105km/h **Range (on road):** 700km **Crew:** 3 **Passengers:** 8



Jordan Design and Development Bureau (JODDB) ► Al-Mared

Unveiled at the May 2018 SOFEX exhibition in Jordan, the Al-Mared is the first 8x8 AFV to be developed by KADDB. The Al-Mared features an all-welded steel armoured body integrated on a Tatra 8x8 high-mobility cross-country truck chassis. Proposed variants included an APC and an IFV. **Length:** 8m **Width:** 2.96m **Height:** 2.88m **Ground clearance:** 0.4m **Weight:** 25t **Max speed:** 110km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 8



Kharkiv Morozov Machine Building Design Bureau ▶ BTR-3

Kharkiv Morozov Machine Building Design Bureau produced the first 8x8 BTR-3-series amphibious APC in 2001. The series includes the BTR-3U, the BTR-3U Guardian (variant for the UAE), the BTR-3E, the BTR-3E1 and the latest upgraded variant – the BTR-3DA. With a crew of three – driver, commander and gunner – the BTR-3E carries six infantrymen, who enter via a door at the rear of the hull. **Length:** 7.6m **Width:** 2.9m **Height:** 2.8m **Weight:** 20t **Max speed:** 100km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 6



Kharkiv Morozov Machine Building Design Bureau ▶ BTR-4

The BTR-4 is an 8x8 amphibious APC unveiled in 2006 by Kharkiv Morozov Machine Building Design Bureau as a private venture. Entering production in 2008, it has since been exported to several militaries in Africa, the Middle East and Southeast Asia. It is also available in several variants and can be equipped with different subsystems to meet customer requirements. **Length:** 7.88m **Width:** 2.94m **Ground clearance:** 0.47m **Weight:** 20t **Max speed:** 100km/h **Range (on road):** 690km **Crew:** 3 **Passengers:** 10



Military Industrial Company ▶ BTR-80

The BTR-80 is an 8x8 amphibious APC originally developed by the Soviet Union. It introduced new side doors to allow infantry passengers to embark much more quickly and safely than the preceding BTR-60 and BTR-70 APCs. This vehicle forms the basis of an entire family of vehicles, including the BTR-80A IFV armed with an automatic 30mm cannon. **Length:** 7.7m **Width:** 2.95m **Height:** 2.8m **Ground clearance:** 0.47m **Weight:** 14.55t **Max speed:** 80km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 8



Military Industrial Company ▶ BTR-82A/BTR-82AM

The Military Industrial Company (VPK) unveiled the BTR-82A 8x8 amphibious vehicle, an upgraded version of the BTR-80A IFV, in December 2009. The BTR-82A IFV offers improved firepower, agility and protection and is also equipped with more modern C2 systems. It is armed with a two-axis stabilised 30mm 2A72 cannon and a 7.62mm PKTM coaxial machine gun, although other weapons can be fitted to meet customer requirements. **Length:** 7.58m **Width:** 2.98m **Height:** 2.73m **Ground clearance:** 0.47m **Weight:** 16t **Max speed:** 80km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 7



Military Industrial Company ▶ BTR-82AT

The BTR-82AT is an upgraded version of the BTR-82A and BTR-82AM 8x8 IFVs developed for the Russian Army. Introduced in 2019, it features a new, more capable thermal imager for the TKN-4GA gunner's sight, an updated fire control system and mounting points for bolt-on armour and slat armour to improve its survivability against heavy machine gun and shaped-charge projectiles. A tripod-mounted 9K129 Kornet ATGM launcher can also be carried inside the vehicle. **Length:** 8.12m **Width:** 3.44m **Height:** 2.73m **Ground clearance:** 0.47m **Weight:** 17.25t **Max speed:** 80km/h **Crew:** 3 **Passengers:** 7



Military Industrial Company ▶ BTR-87A

The Military-Industrial Company (VPK) is developing the BTR-87A 8x8 IFV as a private venture to appeal to customers that operate earlier BTR-series vehicles. According to VPK, the BTR-87A offers many improvements over the BTR-82A, an upgraded version of the BTR-80A. The engine has been moved from the rear to the front of the vehicle, providing more space in the rear troop compartment, which soldiers now enter and exit via a ramp. **Length:** 7.56m **Width:** 2.98m **Height:** 3.02m **Ground clearance:** 0.47m **Weight:** 16t **Max speed:** 90km/h **Crew:** 2 **Passengers:** 8



Military Industrial Company ▶ K-16/K-17 Bumerang

The 8x8 Bumerang is being developed by MIC as a replacement for BTR-80- and BTR-82A-series vehicles in Russian Army service. The army has ordered an initial batch of 12 vehicles for evaluation. Proposed variants include IFV, APC, command post, reconnaissance, antitank missile carrier, air defence missile launcher, fire support vehicle, mortar carrier and ambulance.

Length: 8.8m **Width:** 3.19m **Height:** 3.19m **Ground clearance:** 0.45m **Weight:** 28.6t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 3 **Passengers:** 8



Minsk Wheel Tractor Plant (MZKT) ▶ Volat V2

The MZKT-690003 Volat V2 is an amphibious 8x8 IFV designed by the Belarusian Minsk Wheel Tractor Plant. It is manufactured from Belarusian components to reduce reliance on imports from Russia. Unveiled at MILEX 2021, the Volat V2 is intended to replace legacy BMP and BTR series in service with the Belarusian Army. **Length:** 8m **Width:** 3m **Height:** 2.9m **Weight:** 19.9t **Max speed:** 110km/h **Range (on road):** 1.2km **Crew:** 3 **Passengers:** 8



Nexter Systems ▶ VBCI

Nexter developed the VBCI to meet a French Army requirement for an infantry fighting vehicle to replace the tracked AMX-10P. The 8x8 design was specified to provide a vehicle with sufficient mobility to work alongside the army's Leclerc MBT. The army plans to order 520 IFVs, equipped with a one-man Dragar 25mm turret, and 110 command vehicles equipped with a remote weapons station. **Length:** 7m **Width:** 3m **Height:** 2.3m **Ground clearance:** 0.5m **Weight:** 26t **Max speed:** 100km/h **Range (on road):** 750km **Crew:** 2 **Passengers:** 9



Nexter Systems ► VBCI-2

Nexter unveiled the VBCI-2 IFV, the latest evolution of its 8x8 VBCI infantry fighting vehicle, at DSEI 2015 in London. Using company funds, Nexter has built on the French Army's experience with the VBCI to develop a vehicle for the export market. **Length:** 8m **Width:** 3m **Height:** 2.5m **Weight:** 32t **Max speed:** 100km/h **Range (on road):** 750km **Crew:** 3 **Passengers:** 14



Norinco ► VP10

The VP10 is an 8x8 amphibious APC developed by Norinco as the basis for a family of vehicles. It is designed to accommodate different combat modules that will allow the same hull to be used for a variety of roles such as command post or ATGM carrier. Several types of weapon station can also be integrated on the vehicle, ranging from an RWS armed with a machine gun to heavier, larger-calibre weapons. **Length:** 6.9m **Width:** 2.7m **Height:** 2.1m **Ground clearance:** 0.41m **Weight:** 12.5t **Max speed:** 105km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 12



Norinco ► ZBL-08/VN1

The ZBL-08 'Snow Leopard' is the infantry fighting vehicle (IFV) variant of a family of 8x8 amphibious vehicles unveiled by Norinco in 2009. As used by the People's Liberation Army (PLA), it is equipped with a two-man turret armed with a 30mm cannon and a 7.62mm coaxial machine gun, with space in the rear troop compartment for up to seven personnel. This standard IFV configuration has also been sold to export customers and a plethora of other variants have been developed by Norinco for the PLA and foreign militaries. This includes an armoured recovery vehicle, an armoured personnel carrier with a raised superstructure, a command post, a fire support vehicle and a reconnaissance vehicle. **Length:** 8m **Width:** 3m **Height:** 2.1m **Ground clearance:** 0.45m **Weight:** 21t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 3 **Passengers:** 7



Ordnance Readiness Development Centre (ORDC) ▶ CM32/33/34 Yunpao

The CM32 Yunpao (Cloud Leopard) family of 8x8 armoured vehicles has been developed to meet the requirements of the Republic of China Army to replace its V-150 wheeled and M113 and CM-21 tracked armoured fighting vehicles. Taiwan's Ordnance Readiness Development Centre led the project and was assisted by Timoney Technology at the design stage.

Length: 6.35m **Width:** 2.7m **Height:** 2.2m **Weight:** 22t
Max speed: 120km/h **Range (on road):** 800km **Crew:** 3
Passengers: 6



Otokar ▶ Arma 8x8

Otokar presented the 8x8 Arma prototype in 2011. The Arma provides protection against ballistic and mine threats by means of a monocoque V-shaped high-hardness steel hull. It is equipped with blast-resistant seats. The Arma is offered in numerous configurations, including APC, IFV, command and weapon carrier. Additionally, it is air transportable by C-130 aircraft in standard configuration. In 2021, as part of the bid to supply the Turkish Land Forces' New Generation Wheeled Armoured Fighting Vehicles programme, Otokar revealed the Arma 8x8 NG variant, which brings with it a number of improvements over earlier versions of the vehicle already in service. **Length:** 7.85m **Width:** 2.7m **Height:** 2.2m **Ground clearance:** 0.42m **Weight:** 24t **Max speed:** 105km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 10



Panus ▶ R600

The R600 8x8 armoured vehicle is an amphibious IFV designed by Panus for the Royal Thai Marine Corps. It completed testing by the marines in August 2019. The propulsion in water is carried out by water jets. **Length:** 8.4m **Width:** 3.2m **Height:** 2.75m **Ground clearance:** 0.5m **Weight:** 25t **Max speed:** 110km/h **Crew:** 2 **Passengers:** 20



Paramount Group/Kazakhstan Paramount Engineering ► Mbombe 8

Paramount unveiled the 8x8 member of its Mbombe family, the Mbombe 8, at the Kazakhstan Defence Expo on 2 June 2016. Sharing more than 80% of its components with the 4x4 and 6x6 Mbombe vehicles, the Mbombe 8 can be equipped with a crewed or uncrewed turret. Kazakhstan Paramount Engineering (KPE), a Kazakh-South African JV, planned to produce the Mbombe 8, under the local designation Barys 8, in Kazakhstan.

Length: 8m **Width:** 3.28m **Height:** 2.4m **Ground clearance:** 0.43m **Weight:** 28t **Max speed:** 110km/h **Range (on road):** 800km **Crew:** 3 **Passengers:** 8



Patria Land ► AMV

Patria launched the 8x8 Armoured Modular Vehicle AMV in 2004 and has since received contracts for more than 1,400 vehicles. It is manufactured under licence in Poland as the Rosomak (Wolverine) for the Polish Armed Forces and the UAE, both of which have deployed the vehicle in Afghanistan and Yemen respectively. An improved version of the AMV with greater payload, protection and performance was unveiled at DSEI 2013 as the AMVxp. **Length:** 7.9m **Width:** 2.8m **Height:** 2.4m **Weight:** 27t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 1 **Passengers:** 10



Patria Land ► AMV28A

Patria launched its new 8x8 AMV28A amphibious vehicle, the latest member of the Armoured Modular Vehicle family, at the February 2017 IDEX exhibition. The 28t AMV28A can be fitted with a bolt-on kit, enabling it to undertake amphibious operations up to Sea State 3 at speeds up to 10km/h. **Length:** 8.1m **Width:** 2.85m **Height:** 2.4m **Weight:** 28t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 3 **Passengers:** 8



Poly Technologies ▶ Type 07P

The Type 07P is an amphibious 8x8 APC developed and marketed by Poly Technologies. In its standard configuration, the vehicle is fitted with a one-man turret armed with a 30mm cannon and a 7.92mm machine gun. Command post and armoured recovery vehicle variants are also known to exist, as well as the Type 07PA version equipped with a 120mm breech-loaded mortar. Although the vehicle is not known to be in service with the Chinese Armed Forces, it has been exported to foreign militaries. **Length:** 7m **Width:** 2.65m **Height:** 2.83m **Weight:** 15.6t **Max speed:** 100km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 7



Practika ▶ Otaman 8x8

The Otaman 8x8 is produced by Practika. It was first unveiled at the Kiev Arms and Security Exhibition in 2017. It is marketed as a platform for a family of specialist vehicles, fulfilling both offensive and supporting roles depending on the armament attached. **Length:** 7m **Width:** 2.6m **Height:** 2.43m **Weight:** 13t **Crew:** 4 **Passengers:** 10



Rheinmetall Landsysteme ▶ Boxer CRV

In March 2018, the Australian DoD announced that it had selected the Rheinmetall Boxer CRV, a further development of the ARTEC 8x8 Boxer APC, to meet the Australian Army's requirement for a new wheeled Combat Reconnaissance Vehicle (CRV). It will replace its General Dynamics Land Systems 8x8 Australian Light Armoured Vehicle family which has been in service since 1996. Under the \$2.4 billion procurement contract, Rheinmetall will deliver a total of 211 Boxer CRVs and 223 mission modules to Australia between 2019 and 2026, of which 186 will be produced in Australia. **Length:** 8.8m **Width:** 2.96m **Height:** 3.15m **Ground clearance:** 0.5m **Weight:** 38.5t **Max speed:** 103km/h **Range (on road):** 1,000km **Crew:** 3 **Passengers:** 4



Rosomak/Patria Land ► Rosomak

The Rosomak is a variant of Patria's 8x8 Armored Modular Vehicle (AMV) platform produced under licence in Poland. Approximately 90% of the vehicle's components are manufactured by Polish companies with final assembly done by Rosomak. In addition to an infantry fighting vehicle variant equipped with a turret armed with a 30mm cannon, the Rosomak is also used as the basis for specialised variants including ambulances, the Rak 120mm mortar system and command vehicles. **Length:** 7.7m **Width:** 2.8m **Height:** 2.3m **Weight:** 27t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 3 **Passengers:** 8



ST Engineering Land Systems ► Terrex 2

The Terrex 2 is a larger, heavier version of ST Engineering's Terrex 8x8 armoured vehicle. Available in both amphibious and non-amphibious configurations, it is capable of accommodating a higher payload than the original Terrex and features a more powerful engine than its predecessor. SAIC offered the Terrex 2 as part of its bid for the USMC's Amphibious Combat Vehicle programme, but it ultimately lost out to BAE Systems and is yet to receive a launch customer. **Length:** 8.5m **Width:** 3.6m **Height:** 2.8m **Ground clearance:** 0.4m **Weight:** 30t **Max speed:** 90km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 11



ST Engineering Land Systems ► Terrex 3

The Terrex 3 is the latest member of the Terrex 8x8 IFVs developed by ST Kinetics and is a highly protected variant. Designed using the V-shaped hull technology of the Terrex 2, the Terrex 3 is mated with a new and larger powerpack that is capable of a higher payload of 12t, allowing for growth potential. Additionally, it has a gross vehicle weight of around 35t and uses the driveline design of the Terrex. **Length:** 8.5m **Width:** 3m **Height:** 2.8m **Weight:** 35t **Max speed:** 88km/h **Crew:** 2 **Passengers:** 11



Streit Group ▶ Matador AMPV 8x8

The Matador is an 8x8 APC, designed to provide high levels of ballistic protection and blast resistance, with off-road capability. The layout is conventional with thick armoured steel at the front to protect against head-on attacks. The powerpack is in the middle to create balance and a low silhouette, while the crew compartment is at the rear, for the maximum protection to the dismounts. **Length:** 8.93m **Width:** 2.71m **Height:** 2.81m **Weight:** 15.3t **Crew:** 2 **Passengers:** 10



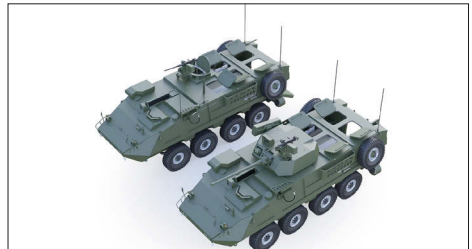
Yugoimport-SDPR J.P ▶ Lazar 3

The Lazar 3 is an 8x8 armoured vehicle developed by Yugoimport in cooperation with Texelis and Timoney. It can be configured for a wide range of roles and can be armed with a remote weapons station sporting a machine gun or a turreted 30mm cannon. **Length:** 7.92m **Width:** 2.95m **Height:** 2.32m **Ground clearance:** 0.42m **Weight:** 26t **Max speed:** 110km/h **Crew:** 3 **Passengers:** 9



Zetor Engineering ▶ Project 8x8

The Project 8x8 vehicle is the second AFV being developed by Zetor Engineering following the Wolfdog tracked AFV family. The company intends for the amphibious 8x8 design to form the basis of a complete series of wheeled AFVs. It will include 4x4 and 6x6 models. **Length:** 7.8m **Width:** 2.95m **Height:** 2.35m **Ground clearance:** 0.45m **Weight:** 32t **Max speed:** 110km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 8



Tracked APCs/IFVs ▶ BAE Systems Hägglunds ▶ Bv206S

The Bv206S is an armoured variant of the BAE Systems Hägglunds Bv206 tracked ATV. Originally developed to meet the requirements of the Swedish Army, the Bv206S consists of two coupled units, with all four tracks powered. It is designed to operate in extreme terrain and weather conditions and is amphibious with minor preparation. **Length:** 2m **Width:** 2m **Height:** 2m **Ground clearance:** 0.35m **Weight:** 3.3t **Max speed:** 52km/h **Range (on road):** 300km **Crew:** 4 **Passengers:** 8

**BAE Systems Hägglunds** ▶ BvS10 Beowulf

BAE Systems Hägglunds launched the BvS10 Beowulf articulated tracked ATV at the September 2015 DSEI exhibition in the UK. The Beowulf is an unarmoured variant of the company's BvS10 Viking armoured ATV originally developed to meet the requirements of the UK Royal Marines. **Length:** 8m **Width:** 2.2m **Height:** 2.5m **Weight:** 15t **Max speed:** 70km/h **Range (on road):** 400km **Crew:** 2 **Passengers:** 12

**BAE Systems Hägglunds** ▶ BvS10 Mk II

Based on its experience with the Bv206S, BAE Systems Hägglunds developed the tracked BvS10 all-terrain armoured vehicle to meet the requirements of the UK Royal Marines for an All-Terrain Vehicle (Protected). The BvS10, known as Viking in British service, is similar in concept to the Bv206S, but larger and more capable. **Length:** 8m **Width:** 2.25m **Height:** 2.45m **Weight:** 15.5t **Max speed:** 70km/h **Range (on road):** 350km **Crew:** 2 **Passengers:** 10



BAE Systems Hägglunds ▶ CV90

The CV90 began development in 1984 to meet the Swedish Army's requirement for an IFV combining high levels of mobility, protection and firepower with a modular design that could be utilised for other roles such as air defence. Deliveries of the first of 509 for Sweden began in 1993. Approximately 500 additional vehicles have also been bought to equip the armies of Denmark, Finland, Norway, the Netherlands and Switzerland.

Length: 6.8m **Width:** 3.2m **Height:** 2.8m **Ground clearance:** 0.4m **Weight:** 35.9t **Max speed:** 70km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 7



BAE Systems Hägglunds ▶ CV90 Armadillo

The Armadillo APC, unveiled at Eurosatory 2010, is based on BAE Systems' CV90 IFV design. It has been modified to provide a higher degree of flexibility to meet new threats and adapt to changing operational environments. Additionally, removing the CV90's turret creates an APC with a payload capacity of 16t. The modular design allows up to 80% commonality between variants and facilitates a low-cost change to new roles. **Length:** 6.9m **Width:** 3.2m **Height:** 2.6m **Ground clearance:** 0.4m **Weight:** 35t **Max speed:** 68km/h **Range (on road):** 900km **Crew:** 3 **Passengers:** 7



BAE Systems Inc ▶ Bradley NG/RB301

BAE Systems introduced the Bradley Next Generation (NG) at AUSA 2016 to showcase a cost-effective option for extending the M2 Bradley's service life into the 2030s. Centred around a new hull design that shares commonality with the AMPV and M109A7, the Bradley NG offers greater protection, more electrical power, increased growth potential and enhanced mobility. Further development of the Bradley NG has resulted in the RB301 testbed vehicle, which will be used to demonstrate technology that could be integrated on the US Army's future OMV platform. **Weight:** 45.4t **Crew:** 3 **Passengers:** 6



BAE Systems Inc ▶ M2A4/M7A4 Bradley

Since 2011, the US Army and BAE Systems have been developing modifications for the Bradley Fighting Vehicle platform to address concerns regarding its ever-increasing weight, limited power generation capabilities and deteriorating mobility. BAE Systems has been contracted to install these modifications on older versions of the M2 Bradley Fighting Vehicle and the M7 Bradley Fire Support Team Vehicle (BFIST), creating the M2A4 and M7A4, respectively. These upgrades will ensure that the platform can remain viable up to 2050.

Compared to previous versions of the Bradley, the A4 upgrade has an uprated suspension, more powerful engine, an independent commander's sight, more capable electronic architecture and improved networking capabilities. This enables it to cope with the increased weight of additional upgrades and provides sufficient electrical power for new subsystems such as an APS to be installed on the vehicle. **Length:** 6.5m **Width:** 3.2m **Height:** 3.3m **Ground clearance:** 0.3m **Weight:** 36.29t **Max speed:** 66km/h **Range (on road):** 402km **Crew:** 3 **Passengers:** 7



BAE Systems ▶ Armored Multi-Purpose Vehicle (AMPV)

BAE Systems' Armored Multi-Purpose Vehicle (AMPV) was developed in response to a US Army requirement for a platform to replace the ageing M113 APCs in service with its Armored Brigade Combat Teams (ABCTs). Based on a modified Bradley Fighting Vehicle hull, the AMPV not only has a higher level of protection and more mobility than the M113, but it also shares common automotive components with the Bradley and the M109A7 self-propelled howitzer. If the programme is exercised to its full extent, 2,897 AMPVs will be procured in five different variants by the US Army. **Width:** 3.7m **Height:** 3.1m **Ground clearance:** 0.4m **Crew:** 2 **Passengers:** 4



EVPU/Excalibur Army/VOP-CZ ▶ BMP-M2 SKCZ

The BMP-M2 SKCZ is an extensive modernisation of the BVP-1, the licence-built Czech version of the Soviet BMP-1 IFV developed in the mid-1960s. The package, developed by Excalibur Army, EVPU and VOP Trenčín, improves the firepower, mobility, protection and ergonomics of the vehicle. **Length:** 7m **Width:** 3.2m **Height:** 2.9m **Weight:** 19t **Max speed:** 70km/h **Range (on road):** 550km **Crew:** 3 **Passengers:** 6



FFG Flensburger Fahrzeugbau Gesellschaft ► HiMoLaP

The High Mobility Land Platform (HiMoLaP) articulated tracked vehicle was developed by FFG as a technology demonstrator for the German MoD. To provide maximum mobility in extreme terrain, it is equipped with active cornering and active climbing roll damping technology. Although armoured sufficiently to withstand mine blasts, its weight is reduced due to the use of lighter composite materials. **Length:** 7.9m **Width:** 2.5m **Height:** 2.5m **Weight:** 14t **Max speed:** 70km/h **Range (on road):** 550km



FFG Flensburger Fahrzeugbau Gesellschaft ► PMMC G5

The PMMC G5 is a tracked armoured personnel carrier (APC) intended to replace vehicles such as the M113 APC series with a modular family that provides a high level of protection against ballistic, mine and IED threats. To reduce costs and simplify maintenance, the PMMC G5 design makes extensive use of MOTS and COTS components. The vehicle can also be fitted with interchangeable mission modules that can be changed in a few hours in-theatre. **Length:** 6.25m **Width:** 2.85m **Height:** 2.46m **Ground clearance:** 0.45m **Weight:** 26.5t **Max speed:** 74km/h **Range (on road):** 1,000km **Crew:** 3 **Passengers:** 8



FNSS Savunma Sistemleri A.Ş. ► ACV-19

The Armoured Combat Vehicle-19 (ACV-19) is a family of 15-19t-class vehicles derived from the ACV-15. Besides offering performance improvements, the ACV-19 offers commonality with the ACV-15 family. The primary differences between the ACV-19 and ACV-15 are a longer hull with six road wheels, heavy-duty final drives and 'more aggressive' suspension. Additionally, the ACV-19 offers a larger volume under armour and more payload capacity than the ACV-15 as well as mobility 'equal to or better than an MBT'. **Length:** 6.02m **Width:** 2.94m **Height:** 2.69m **Ground clearance:** 0.43m **Weight:** 18t **Max speed:** 65km/h **Range (on road):** 490km **Crew:** 3 **Passengers:** 10



FNSS Savunma Sistemleri A.Ş. ► ACV-30

The ACV-30 vehicle, also known as the ACV AD (Air Defence), was developed specifically to provide a platform for the Turkish Army's KORKUT and HISAR air defence system requirements. The ACV-30 is the newest, longest and heaviest member of the FNSS Armoured Combat Vehicle (ACV) family, which includes the ACV-15 and the ACV-19, of which more than 2,500 have been built. It also builds on the company's experience developing the ACV-Stretched. **Length:** 7m **Width:** 3.9m **Height:** 2.2m **Ground clearance:** 0.39m **Weight:** 29.5t **Max speed:** 65km/h **Range:** 500km **Crew:** 3



FNSS Savunma Sistemleri A.Ş. ► Kaplan 20 NG-AFV

The Kaplan 20 NG-AFV is the latest member of FNSS' new-generation AFV family. The vehicle has an average power-to-weight ratio of 23hp/t depending on its combat weight, an automatic transmission and the ability to operate jointly with MBTs. Through the integration of different subsystems, the vehicle can execute a wide range of missions. Electronic subsystems are also integrated together with a high-performance power pack, heavy-duty suspension and tracks, which enable the vehicle to carry heavy loads such as 35mm gun systems. **Length:** 6.7m **Width:** 3.15m **Height:** 2.1m **Max speed:** 65km/h **Range (on road):** 500km **Crew:** 3 **Passengers:** 8



FNSS Savunma Sistemleri A.Ş. ► Kaplan LAWC-T

The Kaplan Light Armoured Weapon Carrier - Tracked (LAWC-T) is intended for a variety of roles, including reconnaissance, antitank and fire support missions. It has an all-welded aluminium hull with appliqué armour which offers STANAG 4569 Level 4 ballistic protection and STANAG 4569 Level 3 mine protection. A shallow V-plate can also be fitted beneath the hull to boost mine protection. **Ground clearance:** 0.4m **Weight:** 11.18t **Max speed:** 70km/h **Range (on road):** 600km **Crew:** 5



FNSS Savunma Sistemleri A.Ş. ► Kaplan-10

The Kaplan-10 is a new-generation armoured fighting vehicle designed for operations with main battle tanks. It has a low silhouette and the ability to operate at high speed on asphalt, soft soil, muddy and rough terrains under all weather conditions. It is amphibious, with two water propulsion systems located at the rear of the vehicle. **Length:** 5.6m **Width:** 3m **Height:** 3.1m **Weight:** 10t **Max speed:** 65km/h **Range (on road):** 525km **Crew:** 5 **Passengers:** 8



FNSS Savunma Sistemleri A.Ş. ► ZAHA/MAV

The Armored Amphibious Assault Vehicle (ZAHA), also known as the Marine Assault Vehicle (MAV), is being developed by FNSS to meet the requirements of the Turkish Navy. Able to operate in conditions up to Sea State 4 and travel at speeds of up to 7kts across water, it is designed to support ship-to-shore amphibious landing operations. It is armed with a Çaka RWS mounting a 40mm automatic grenade launcher and 12.7mm heavy machine gun. **Length:** 8.3m **Width:** 3.3m **Weight:** 30t **Max speed:** 70km/h **Crew:** 3 **Passengers:** 18



General Dynamics European Land Systems ► ASCOD CBP IFV

GDELS unveiled a new variant of its tracked ASCOD (Austrian Spanish Cooperative Development) IFV based on the new Common Base Platform (CBP) at the June 2018 Eurosatory exhibition. The 35t vehicle mounts the Elbit UT30MK2 unmanned turret. Earlier-model ASCOD IFVs are in service with the Austrian Army (as the Ulan) and the Spanish Army (Pizarro) and the CBP has been developed for the British Army's Ajax reconnaissance vehicle project. **Weight:** 35t **Crew:** 3 **Passengers:** 6



General Dynamics Land Systems ► Griffin III

The Griffin III is a technology demonstrator unveiled by General Dynamics Land Systems (GDLS) at AUSA 2018 to showcase some of the technology that could be integrated into the US Army's next tracked IFV. Based on the hull utilised by the British Army's Ajax tracked vehicle family, the vehicle can accommodate six dismounts and can be operated by a crew of just two people. It was displayed armed with an experimental 50mm cannon mounted in a new purpose-built turret. Although the Griffin III was intended to inform future requirements for the US Army's Optionally Manned Fighting Vehicle (OMFV) programme, GDLS did not enter it into the competition. Instead, the company manufactured a new prototype that resembled the Griffin III in many respects, though the first incarnation of the OMFV programme was ultimately cancelled in January 2020. **Weight:** 40t **Crew:** 2 **Passengers:** 6



General Dynamics UK ► Ajax

Ajax is a family of 589 tracked armoured vehicles based on the General Dynamics ASCOD IFV hull. These vehicles will replace the CVR(T) family and will equip British Army Strike Brigades. A £3.5 billion (\$4.3 billion) manufacturing contract was awarded to GDLS UK in 2014. The vehicles are expected to enter service between 2020 and 2025. The programme's overall name is Ajax, but there are six variants: reconnaissance (Ajax), reconnaissance support (Ares), C2 (Athena), equipment repair (Apollo), equipment recovery (Atlas) and engineering reconnaissance (Argus). **Length:** 7.62m **Width:** 3.36m **Height:** 3.03m **Ground clearance:** 0.47m **Weight:** 42t **Max speed:** 70km/h **Range (on road):** 500km **Crew:** 3 **Passengers:** 1



Hanwha Defense ► AS21 Redback

First unveiled in scale model form at the Land Forces 2018 exhibition, the AS21 Redback is a tracked IFV developed to meet the Australian Army's Land 400 Phase 3 requirements for a new platform to replace legacy M113AS4 armoured personnel carriers. Based on the K21 IFV hull used by the Republic of Korea Army, it uses many of the same proven components and subsystems found in that vehicle and the K9 Thunder self-propelled howitzer. In its standard IFV configuration, it will be able to accommodate three crew, eight passengers, an active protection system and a turret equipped with a 30mm cannon and ATGMs. Other variants utilising the same hull, such as a mortar carrier, will also be proposed. **Length:** 7.6m **Width:** 3.64m **Height:** 3m **Weight:** 42t **Max speed:** 65km/h **Range (on road):** 520km **Crew:** 3 **Passengers:** 8



Hanwha Defense ► K21

The K21 is a tracked IFV that has a two-man turret armed with a domestically produced S&T; Dynamics K40 40mm cannon, 7.62mm coaxial machine gun and ATGMs. The turret and hull are constructed from all-welded aluminium armour and modular appliqué armour can be fitted to boost protection. The army intends to equip the vehicle with an active protection system. **Length:** 6.9m **Width:** 3.4m **Height:** 2.6m **Ground clearance:** 0.5m **Weight:** 25t **Max speed:** 70km/h **Range (on road):** 450km **Crew:** 3 **Passengers:** 9



Hanwha Defense ► KAAV II

In 2018, Hanwha Defence commenced development of a successor for the Korean Amphibious Assault Vehicle (KAAV), a licence-produced variant of the BAE Systems AAV7A1 currently in service with the Republic of Korea Marine Corps (ROKMC). Designated the KAAV II, this 35t fully amphibious vehicle will be able to transport 18 marines from ship to shore at speeds of more than 24km/h at sea and will be armed with an unmanned turret equipped with a 40mm cannon. A scale model of the KAAV II was unveiled at ADEX 2019, but it is not expected to enter service until the late 2020s. **Length:** 9m **Weight:** 35t **Max speed:** 70km/h **Crew:** 3 **Passengers:** 18



Heavy Industries Taxila ► Talha

The Talha is a tracked APC manufactured by the APC Factory of Heavy Industries Taxila (HIT). Based on the M113, it has an amphibious capability and is typically armed with a 12.7mm heavy machine gun. Production of the Talha started in 2002, with the Pakistan Army planning to field 2000 by 2010. It is unclear whether this many were ever received, but the vehicle is still in operation with the Pakistan and Iraq Armed Forces. The Saab, Sakb and Talha-C are all variants of the Talha. **Length:** 4.83m **Width:** 3.1m **Height:** 2.48m **Weight:** 11.86t **Max speed:** 56km/h **Range (on road):** 428km **Crew:** 4 **Passengers:** 11



HSW- Huta Stalowa Wola ► LPG

The Lightweight Tracked Chassis (LPG) is being developed by HSW for the Polish Army. Unlike previous attempts to develop an LPG, the new vehicle dispenses with the legacy Soviet 2S1 Gvozdika SPH hull in favour of a clean-sheet design that shares similarities with the Borsuk tracked IFV and offers greater mobility and survivability. If adopted, it is expected to form the basis of an artillery command vehicle, reconnaissance vehicle and a tracked version of the Rak 120mm mortar carrier. **Crew:** 3



HSW- Huta Stalowa Wola ► NBPWP Borsuk

The Next-Generation Amphibious IFV (NBPWP) Borsuk tracked infantry fighting vehicle (IFV) was developed by a consortium led by Huta Stalowa Wola (HSW) to meet a long-standing Polish Army requirement for a new tracked IFV platform to replace the legacy BWP-1 IFV. Intended to form the basis of both a light, amphibious IFV weighing under 30t and a heavier version weighing over 40t, 800 Borsuk IFVs could be produced for the Polish Army, in addition to as many as 800 specialised variants. A prototype of the light version of the Borsuk was first unveiled at the MSPO exhibition in 2017. Few technical specifications concerning this platform have been unveiled, but it is planned to be equipped with a ZSSW-30 unmanned turret sporting a 30 or 40mm cannon, 7.62mm machine gun and a twin Spike LR ATGM launcher. **Crew:** 3 **Passengers:** 6



Israel Defense Forces ► Namer

The Namer is a heavy APC, based on the Merkava Mk IV tank chassis, developed by IMI for the Israeli Ordnance Corps. The first vehicles entered service with the Israel Defense Forces (IDF) in mid-2008, and by early 2017, a total of 100 had been delivered. **Length:** 7.5m **Width:** 3.8m **Height:** 2m **Weight:** 60t **Max speed:** 60km/h **Range (on road):** 500km **Crew:** 3 **Passengers:** 9



KBP Instrument Design Bureau ► BMP-2M

The Russian Armed Forces are believed to have close to 5,000 BMP-2 tracked infantry fighting vehicles (IFVs) either in service or held in storage facilities. Although efforts are underway to introduce new tracked IFVs into service with the Russian Army, cost constraints mean that the BMP-2 will not be completely phased out of service in the near future. To redress some of the shortcomings of the BMP-2, KBP has developed the BMP-2M upgrade that has been supplied to the Russian Army and export customers. This differs from the standard BMP-2 in its new B05Ya01 Berezhok turret armed with a 30 mm cannon, coaxial machine gun, 30 mm automatic grenade launcher and four launchers for the Kornet-E ATGM. A new FCS and day/night sights have also been installed on the turret, as well as a digital R-168 radio. **Length:** 6.73m **Width:** 3.15m **Ground clearance:** 0.42m **Crew:** 3 **Passengers:** 7



Krauss-Maffei Wegmann ► APVT

The Amphibious Protected Vehicle Tracked (APVT) is a prototype vehicle manufactured by KMW. Designed to offer protected, amphibious all-terrain mobility, it is targeted at militaries that must operate in a riverine environment. The vehicle features a bidirectional concept, operating on land in one direction and operating in the water in the other. **Length:** 9.4m **Width:** 3.1m **Height:** 2.7m **Weight:** 25t **Max speed:** 70km/h **Range (on road):** 550km **Crew:** 2 **Passengers:** 8



Krauss-Maffei Wegmann/PSM Projekt System & Management ► Puma IFV

The 30mm-armed Puma tracked IFV was developed by Projekt System & Management (PSM), a JV between Krauss-Maffei Wegmann and Rheinmetall Landsysteme, to meet the German Army's requirement for a well-armed infantry fighting vehicle (IFV) offering a very high level of protection. The first of 350 vehicles on order was delivered in June 2015, with deliveries planned to continue until 2020. Additionally, the Puma is being offered for requirements in Australia and the Czech Republic. **Length:** 7.3m **Width:** 3.7m **Height:** 3.1m **Ground clearance:** 0.45m **Weight:** 42t **Max speed:** 70km/h **Range (on road):** 500km **Crew:** 3 **Passengers:** 6



Kurganmashzavod ► B-10 Kurganets APC

The tracked Kurganets family was first seen publicly during rehearsals for the May Day 2015 parade in Moscow. The Kurganets family includes the B-10 APC, B-11 IFV and B-12 repair and recovery vehicle, with other variants expected. Although the vehicle was developed as a replacement for legacy BMP-series vehicles, the Russian Army has elected to prioritise the modernisation of its existing vehicles rather than procure new platforms under the GPV 2027 State Armaments Programme. Consequently, the serial production of the Kurganets family has been pushed back beyond 2021.

Weight: 25t **Max speed:** 80km/h **Crew:** 2 **Passengers:** 8



Kurganmashzavod ► B-11 Kurganets-25 IFV

The tracked Kurganets family was first seen publicly during rehearsals for the May Day 2015 parade in Moscow. The Kurganets family includes the B-10 APC, B-11 IFV and B-12 repair and recovery vehicle, with other variants expected. Although the vehicle was developed as a replacement for legacy BMP-series vehicles, the Russian Army has elected to modernise its existing vehicles rather than procure new platforms under the GPV 2027 programme. Consequently, serial production of the Kurganets family has been pushed back beyond 2021. **Weight:** 25t **Max speed:** 80km/h **Range (on road):** 500km **Crew:** 3 **Passengers:** 8



Kurganmashzavod ► BMD-4M

The BMD-4M is based on the BMD-4, which has been in the Russian Army's airborne forces (VDV) service since 2004. It was developed to provide an improved vehicle that offers maximum commonality with the BMD-4. The BMD-4M has a new hull, engine, chassis and other subsystems. **Length:** 6.1m **Width:** 3.1m **Height:** 2.45m **Ground clearance:** 420mm **Weight:** 13.5t **Max speed:** 70km/h **Range (on road):** 500km **Crew:** 2 **Passengers:** 6



Kurganmashzavod ► BMP-2

The BMP-2 tracked amphibious IFV entered Soviet Army service in 1980. While it utilises the same hull as the BMP-1, it is equipped with a different two-man turret armed with a stabilised dual-feed 2A42 30mm automatic cannon and a coaxial 7.62mm machine gun. Large numbers of the BMP-2 were manufactured in the Soviet Union, many of which were subsequently exported around the world. It is also manufactured under licence in India as the Sarath. **Length:** 6.73m **Width:** 3.15m **Height:** 2.45m **Ground clearance:** 0.42m **Weight:** 14t **Max speed:** 65km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 7



Kurganmashzavod ► BMP-3

The BMP-3 was designed as a successor to the BMP-1 and BMP-2 IFVs, entering service with the Soviet Red Army in 1987. Armed with a 100mm 2A70 main gun, as well as a coaxial 30mm 2A72 cannon and 7.62mm PKT machine gun in its turret, it is capable of carrying up to seven dismounts in addition to its three-person crew. In total, more than 2,000 BMP-3s have been produced, mostly at the Kurganmashzavod plant. **Length:** 7.2m **Width:** 3.23m **Height:** 2.45m **Ground clearance:** 0.51m **Weight:** 18.7t **Max speed:** 70km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 7



Kurganmashzavod ► BMP-3F

The BMP-3F is a variant of KMZ's BMP-3 amphibious tracked IFV that has improved seaworthiness and buoyancy to enable amphibious operations in waters up to Sea State 3 for periods of up to seven hours. To improve the BMP-3F's buoyancy, the BMP-3's self-entrenching equipment has been removed, a lightweight frontal, turret trim vane and a telescopic air intake tube have been fitted. The turret is also protected by trim vanes. **Length:** 6.71m **Width:** 3.15m **Height:** 2.3m **Weight:** 18.5t **Max speed:** 70km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 9



Kurganmashzavod ► BT-3F

The BT-3F is an amphibious tracked APC developed in response to an Indonesian Marine Corps requirement for a new vehicle to replace its ageing fleet of 70 legacy BTR-50 APCs. Capable of carrying 14 passengers and three crew, the BT-3F is intended to support naval assaults by shuttling marines from amphibious assault ships to the shore under the protection of its armoured hull. As it shares many of the components used by the BMP-3F (upon which it is based), the BT-3F offers existing users of the BMP-3 a high degree of design commonality and thereby simplifies logistical considerations. **Length:** 7m **Width:** 3.3m **Height:** 3m **Weight:** 18.5t **Max speed:** 70km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 15



Kurganmashzavod ► BTR-MDM

The BTR-MDM Rakushka is an amphibious tracked armoured vehicle developed by Kurganmashzavod to meet the Russian Airborne Forces' (VDV) need for a new air-droppable APC. Sharing many of its components and subsystems with the BMP-3 and BMD-4M IFVs, it helps to increase commonality across the Russian Armed Forces' fleet. The BTR-MDM entered service with the VDV in early 2015 and is also offered to potential export customers by Rosboronexport. **Length:** 6.08m **Width:** 3.15m **Height:** 2.77m **Ground clearance:** 0.42m **Weight:** 13.2t **Max speed:** 70km/h **Range (on road):** 500km **Crew:** 2 **Passengers:** 13



Military Industrial Corporation (MIC) ► Khatim

Sudan's Military Industry Corporation (MIC) produces the Khatim tracked AFV family which is based on the Iranian Boraq. The latter was in turn based on the Russian BMP-1 IFV or its Chinese counterpart, the WZ501 (Type 86). Sudan received ten Boraq APCs in 2003. **Length:** 6.48m **Width:** 3.13m **Height:** 6.48m **Weight:** 13t **Max speed:** 75km/h **Crew:** 3 **Passengers:** 9



Ministry of Military Production ► Sinai-200

The Sinai-200 (also known as Sena-200) is a family of tracked vehicles developed by the Egyptian MoD's Ministry of Military Production (MOMP). Although derived from the Soviet BMP-1, the Sinai-200 offers a higher level of ballistic and blast protection, more ergonomic crew positions and a RWS in place of the manned 73mm-gun armed turret. In addition to the APC variant, it is intended to spawn a whole family of vehicles ranging from combat support vehicles armed with a 30mm cannon to a mortar carrier and EW vehicle. **Length:** 6.1m

Width: 3.04m **Height:** 1.88m **Ground clearance:** 0.36m **Weight:** 14t **Max speed:** 65km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 6



Minotor-Service ► 3T OTC

Minotor-Service began development of the 3T Omni-role Tracked Carrier (OTC) in 2001 as a private venture and completed the first prototype the following year. This was an open-top vehicle without armour protection, while the second was fully enclosed with protection against small arms fire and shell splinters. The 3T is intended to form the basic chassis for various specialist vehicles, including reconnaissance, fire support, EW, air defence, antitank, logistics carrier, recovery, C2 and ambulance. **Length:** 4.72m **Width:** 2.5m **Height:** 1.6m **Ground clearance:** 0.34m **Weight:** 4t **Max speed:** 80km/h **Range (on road):** 400km **Crew:** 1 **Passengers:** 5



Minotor-Service ► Mule FASC

The Mule FASC (Forward Area Supply Carrier) is an armoured tracked carrier designated for the delivery of ammunition, fuel and other supplies to units deployed in the forward area. The Mule FASC has a maximum road speed of 60km/h and a water speed of 6km/h. **Length:** 7.21m **Width:** 2.85m **Height:** 2.45m **Ground clearance:** 0.4m **Weight:** 11.3t **Max speed:** 60km/h **Range (on road):** 500km **Crew:** 2 **Passengers:** 4



Norinco ► VN12

The VN12 is part of a range of tracked IFVs being offered for export by Norinco. The hull and turret are built of all-welded steel armour, with a layer of modular appliqué plate. According to Norinco, the VN12 can be fitted with various levels of passive armour to meet NATO STANAG 4569 Level 3, 4 or 5 standards.

Max speed: 70km/h **Crew:** 3 **Passengers:** 7



Norinco ► VN17

Norinco displayed its VN17 tracked IFV for the first time during its Armour Day event in August 2017. Primarily aimed at the export market, it is more heavily armoured than previous generations of Chinese IFVs yet still light enough to be air-transportable by military transport aircraft such as the C-130 Hercules. An unmanned turret armed with a 30mm cannon, coaxial machine gun and two HJ-12 ATGM launchers is mounted in the centre of the hull, while up to seven personnel can be carried in the rear troop compartment. **Weight:** 30t

Max speed: 70km/h **Crew:** 3 **Passengers:** 7



Norinco ► ZBD-03/VN10

The ZBD-03 (initially referred to as the ZLC2000) is an air-droppable tracked infantry fighting vehicle (IFV) designed to support airborne assault operations. Although it shares many design elements with the Soviet BMD-1 and BMD-2 IFV, its powerpack has been relocated to the front and the hull has been raised to provide more internal volume within the troop compartment. Since being publicly unveiled during a 2009 military parade, the ZBD-03 has been produced in unknown numbers to equip Chinese airborne units and has also been offered for export under the designation VN10. **Length:** 6m

Width: 2.35m **Height:** 2.1m **Ground clearance:** 0.4m **Weight:** 8t

Max speed: 65km/h **Range (on road):** 500km **Crew:** 3

Passengers: 4



Norinco ► ZBD-04/VN11

The ZBD-04 is a fully amphibious tracked IFV that entered service with the People's Liberation Army (PLA) in 2006. Based on the Russian BMP-3 design, it shares many of the same features introduced with its Russian predecessor, including a near-identical turret armed with a 100mm smoothbore gun, coaxial 30mm cannon and coaxial 7.62mm machine gun. In 2014, an improved ZBD-04A variant with an appliqué armour package, improved fire control system and a battlefield management system was introduced into PLA service. **Length:** 7.52m **Width:** 3.3m **Height:** 2.53m **Ground clearance:** 0.45m **Weight:** 21.5t **Max speed:** 70km/h **Range (on road):** 400km **Crew:** 3 **Passengers:** 7



Norinco ► ZBD-05/VN18

The Hunan Jianglu Machinery Group (a subsidiary of Norinco) developed the tracked ZBD-05 amphibious IFV to meet the requirements of the Chinese People's Liberation Army Navy Marine Corps (PLANMC). Equipped with two water jets and capable of accommodating up to 11 marines in its rear troop compartment, this vehicle was specifically designed to support ship-to-shore amphibious operations and beach assaults. Unveiled by the PLANMC in 2009, the vehicle has since been offered to export customers as the VN18. It has also been developed into the ZTD-05/VN16 fire support variant armed with a 105mm gun. **Length:** 9.5m **Width:** 3.36m **Height:** 3.04m **Ground clearance:** 0.4m **Weight:** 26.5t **Max speed:** 65km/h **Range (on road):** 500km **Crew:** 3 **Passengers:** 11



OBRUM ► Anders Multirole Combat Platform

The tracked WPB Anders multirole combat platform was designed to replace the BMP-1 IFV and other vehicles in Polish Army service. The Anders family is expected to have a combat weight of 30-45t depending upon the variant. Designed by OBRUM, part of the Bumar Group (now Polish Armaments Group), the Anders was unveiled in 2010, when it was displayed with a 120mm-armed turret. **Length:** 6.9m **Width:** 3.2m **Height:** 2.8m **Weight:** 35t **Max speed:** 80km/h **Crew:** 3 **Passengers:** 8



Otokar ▶ Tulpar

Otokar publicly unveiled the Tulpar IFV at Turkey's IDEF defence exhibition in May 2013. The Tulpar is being developed to meet a potential Turkish requirement for a tracked IFV to complement the new Altay MBT planned to enter service from the middle of the decade, as well as for the export market. **Length:** 7.23m **Width:** 3.45m **Height:** 2.68m **Ground clearance:** 0.45m **Weight:** 32t **Max speed:** 70km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 9



Otokar ▶ Tulpar-S

The Tulpar-S, developed by FNSS for the Turkish Weapon Carrying Vehicle (WCV) programme, is the latest member of the Tulpar IFV family and was unveiled at IDEF 2013. Otokar first displayed the Tulpar-S configured as an antitank vehicle at the May 2015 IDEF exhibition and at Eurosatory 2016 displayed a Tulpar-S APC. **Length:** 5.7m **Width:** 2.9m **Height:** 2m **Weight:** 15t **Max speed:** 70km/h **Range (on road):** 500km **Crew:** 3 **Passengers:** 8



Rheinmetall Landsysteme ▶ KF31 Lynx

Rheinmetall unveiled the KF31, the first member of its Lynx modular tracked IFV family, at Eurosatory 2016. The 38t KF31 (KF stands for Kettenfahrzeug, the German word for 'tracked vehicle') carries a crew of three – commander, driver and gunner – and six dismounts. The Lynx IFV is also available in two versions: the KF31 and KF41. **Length:** 7.73m **Width:** 3.36m **Height:** 3.3m **Weight:** 38t **Max speed:** 65km/h **Crew:** 3 **Passengers:** 6



Rheinmetall Landsysteme ▶ KF41 Lynx

Rheinmetall unveiled a prototype of the KF41, the second member of its Lynx modular tracked IFV family, at Eurosatory 2018. The 44t KF41 is operated by a three-strong crew and carries eight dismounts, while the 38t KF31, similar in most respects, carries six dismounts. **Length:** 7.7m **Width:** 3.36m **Height:** 3.3m **Weight:** 44t **Max speed:** 70km/h **Range (on road):** 500km **Crew:** 3 **Passengers:** 8



ST Engineering Land Systems ▶ Bronco 3

ST Kinetics launched its twin-chassis Bronco New-Generation All-Terrain Tracked Carrier in early 2012 (now known as Bronco 3). The vehicle builds on the experience of the company in developing the Warthog for the British Army from the original Bronco and will serve as the basis for future export orders.

Length: 8.6m **Width:** 2.26m **Height:** 2.3m **Weight:** 18t **Max speed:** 65km/h **Range (on road):** 400km **Crew:** 1 **Passengers:** 16



ST Engineering Land Systems ▶ Hunter

ST Engineering began the development of the tracked Next-Generation Armoured Fighting Vehicle (NGAFV) in 2006 as a replacement for the Singapore Army's fleet of approximately 1,000 M113 Ultra APCs. Five variants of the platform have been developed: an IFV, a command vehicle, an armoured engineering vehicle, an armoured recovery vehicle and an armoured vehicle-launched bridge. Following a contract awarded by Singapore's MoD in March 2017, the NGAFV was formally commissioned into service with the Singapore Army in June 2019 as the Hunter AFV. **Length:** 6.9m **Width:** 3.4m **Height:** 3.28m **Weight:** 29t **Max speed:** 70km/h **Range (on road):** 500km **Crew:** 3 **Passengers:** 8



UralVagonZavod ► BMP-1AM

The BMP-1AM Basurmanin was developed by UVZ as an affordable upgrade of the Soviet-era BMP-1 tracked IFV, thousands of which continue to see service across the world. Intended to address the BMP-1's deficient firepower and refresh its obsolete subsystems, the upgrade centres around the installation of a new unmanned BPPU-1 turret borrowed from the BTR-82A. Armed with a 30mm cannon and featuring a day/night sight, this makes the BMP-1AM more versatile and more lethal than its predecessor. The BMP-1AM has entered service with the Russian Armed Forces and the platform is also offered for export. **Length:** 6.74m **Width:** 3.15m **Height:** 2.55m **Ground clearance:** 0.42m **Weight:** 14.2t **Max speed:** 65km/h **Range (on road):** 550km **Crew:** 3 **Passengers:** 8



UralVagonZavod ► DT-BTR Arktika

The DT-BTR Arktika is a tracked articulated vehicle developed by UVZ to provide transport and fire support for Russian infantry units operating in snow-covered theatres of operation, such as the Arctic. Comprised of two armoured modules, the vehicle is understood to have an overall weight of 25t. An uncrewed turret can be mounted on top of the forward crew module, while the second module can accommodate up to nine dismounts. **Weight:** 25t **Max speed:** 60km/h **Crew:** 3 **Passengers:** 9



UralVagonZavod ► T-15 Armata

The T-15 Armata heavy IFV was first seen publicly during rehearsals for the May Day 2015 parade in Moscow. The T-15 has a diesel power pack at the front, behind which sit the commander and driver with a gunner seated behind the commander. The troop compartment seats nine infantrymen, who enter and leave via a large power-operated ramp at the rear of the vehicle. **Weight:** 55t **Max speed:** 75km/h **Range (on road):** 500km **Crew:** 3 **Passengers:** 9



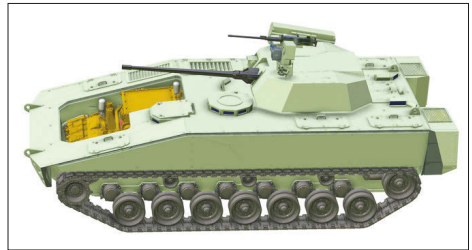
Yugoimport-SDPR J.P ► BVP M-80AB1

Yugoimport's BVP M-80AB1 IFV is a modernised version of the earlier BVP M80 which was originally produced in 1975. The BVP M-80AB1 has an improved firing control system and an upgraded maximum firing range of 2km.



Zetor Engineering ► Wolfdog

Unveiled in the form of a scale model at the 2017 IDET exhibition, the Wolfdog is the first AFV designed by Czech firm Zetor Engineering. It is intended to form the basis of an entire family of tracked vehicles that will be marketed to potential customers between 2020 and 2050. Weighing between 38 and 49t depending upon its configuration, in its IFV variant the Wolfdog can accommodate up to eight dismounts and can mount different weapon stations depending on customer requirements, including an unmanned turret armed with a 30 or 35mm cannon. Although Zetor Engineering reportedly planned to offer the Wolfdog to the Czech Army as a contender for its BVP-2 IFV replacement programme, ultimately the platform did not participate in the competition. **Length:** 7.84m **Width:** 3.7m **Height:** 3.5m **Ground clearance:** 0.5m **Weight:** 49t **Max speed:** 70km/h **Range (on road):** 600km **Crew:** 3 **Passengers:** 8





SPECIFICATIONS

MINE-PROTECTED AND MRAP VEHICLES

This section provides a guide to mine-protected and Mine Resistant Ambush Protected (MRAP) vehicles that are under development, in production or being substantially modernised.

The specifications listed here are intended to provide a handy reference source for the basic parameters that describe the vehicle's performance. Most data has been supplied by the manufacturers, who can give more detailed information on request.

Entries are listed alphabetically by company.

If you think your product should be listed, please contact the team at insight@shephardmedia.com to ensure it appears in the *Shephard Defence Insight* online database (shephardmedia.com/defenceinsight) and is included in the next handbook edition.

ABOVE: A Ridgeback protected vehicle of the British Army. (Photo: British Army)

Achleitner Fahrzeugbau ► PMV Survivor II

Achleitner developed the 4x4 Protected Mission Vehicle (PMV) Survivor II to meet the needs of military, paramilitary and law enforcement customers. The crew cabin is designed as a monocoque cell to which additional modular add-on armour kits can be added to boost protection levels to STANAG 4569 Level 3 ballistic and Level 4a/3b mine/IED blast. **Length:** 6.4m **Width:** 2.4m **Height:** 2.7m **Ground clearance:** 0.4m **Weight:** 15t **Max speed:** 100km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 10



BAE Systems Platforms & Services ► Caiman

BAE Systems produced more than 2,800 6x6 Caimans – a V-hull design based on the company's Family of Medium Tactical Vehicles (FMTV) chassis and Low Signature Armored Cab (LSAC) – for the US MRAP programme between 2007 and 2009. Following plans to cut the US MRAP fleet after the war in Afghanistan and Iraq, many of these ex-US Army vehicles were sold or donated to military allies. BAE has also developed an upgraded Caiman Multi-Terrain Vehicle (MTV) variant that provides greater levels of survivability and mobility. **Length:** 7.4m **Width:** 2.6m **Height:** 3m **Weight:** 31.3t **Max speed:** 105km/h **Range (on road):** 483km **Crew:** 2 **Passengers:** 14



BMC Otomotiv Sanayi ve Ticaret ► Kirpi I/Kirpi II

The Turkish Land Forces Command (TLFC) selected BMC's 350-16 Z Kirpi (Hedgehog) 4x4 MRAP vehicle to meet its requirements following a competitive evaluation and ordered 468 vehicles in 2009. However, BMC went bankrupt in 2011 after delivering 278 vehicles. Production was restarted in November 2013, and deliveries to the Turkish Land Forces Command (TLFC) as well as several export customers recommenced in 2014. A new Kirpi II variant featuring an independent suspension and revised internal layout has also been sold to the TLFC and export customers. **Length:** 7.38m **Width:** 2.87m **Height:** 3.81m **Weight:** 20.82t **Max speed:** 100km/h **Range (on road):** 750km **Crew:** 3 **Passengers:** 10



Chaiseri Metal & Rubber Co ▶ First Win

The First Win 4x4 multipurpose vehicle was developed in 2009-10 and has since entered service with the Royal Thai Army. The platform has been designed to operate in both urban areas and difficult terrain. **Length:** 5.85m **Width:** 2.2m **Height:** 2.42m **Ground clearance:** 0.5m **Weight:** 10t **Max speed:** 100km/h **Range (on road):** 700km **Crew:** 1 **Passengers:** 9



Chaiseri Metal & Rubber Co ▶ First Win II

The First Win II 4x4 is a multipurpose mine-protection vehicle (MPV) that is in service with the Royal Thai Army (RTA). The MPV was developed and modified from the First Win I after a request from the RTA. **Length:** 6.2m **Width:** 2.45m **Height:** 2.68m **Ground clearance:** 0.5m **Weight:** 14.5t **Max speed:** 110km/h **Range (on road):** 650km **Crew:** 1 **Passengers:** 9



China South Industries ▶ CS/VP14 Chana

The CS/VP14 Chana 4x4 MRAP was developed by China South Industries and appears to be aimed at the export market. Intended to be lighter, better protected and more mobile than previous Chinese MRAPs such as the Poly Technologies CS/VP3, it can meet STANAG 4569 Level 3b standards of blast protection and carry up to ten people. **Length:** 7.1m **Width:** 2.6m **Height:** 2.8m **Ground clearance:** 0.42m **Weight:** 13.5t **Max speed:** 120km/h **Crew:** 2 **Passengers:** 8



DCD Protected Mobility ► Mountain Lion

The 4x4 Mountain Lion, first shown publicly in 2011, combines proven technologies, such as a monocoque V-shaped hull and COTS drivetrain components, with advances in suspension and steering design, according to the company. The vehicle draws on the company's experience with the Husky Vehicle Mounted Mine Detector (VMMD) and uses commercial systems extensively to allow for ease of service and reduced supply chain. **Length:** 6.2m **Width:** 2.5m **Height:** 2.7m **Ground clearance:** 0.44m **Weight:** 10.9t **Max speed:** 110km/h **Range (on road):** 750km **Crew:** 2 **Passengers:** 8



Denel Mechem ► Casspir NG2000

The Casspir NG2000, introduced in 2013, is the latest generation of the proven Casspir series of 4x4 and 6x6 mine-protected vehicles first developed in the late 1970s to meet South African police requirements. Since production began in 1980, more than 3,000 Casspirs have been built for military and security customers. Over 3,000 Casspirs have been built for military and security customers in more than 20 countries, although only Angola and Benin are known to have purchased the Casspir NG2000. **Length:** 7.77m **Width:** 2.7m **Height:** 2.9m **Ground clearance:** 0.35m **Weight:** 14.3t **Max speed:** 100km/h **Range (on road):** 800km



Denel Vehicle Systems ► RG21

The 4x4 RG21 was launched as a prototype by BAE Systems Land Systems South Africa (LSSA) at the AAD defence exhibition in September 2014. In early 2015, Denel completed the acquisition of LSSA. The RG21 development concept was to combine the battle-proven protection of the RG series with the maturity of a COTS driveline, running gear and electronics, to offer a cost-effective vehicle both in terms of manufacture and in-service support, especially when deployed in austere areas. **Length:** 6.49m **Width:** 2.45m **Height:** 2.93m **Ground clearance:** 0.45m **Weight:** 13.8t **Max speed:** 110km/h **Crew:** 2 **Passengers:** 10



Denel Vehicle Systems ► RG32M

BAE Systems Land Systems South Africa produced more than 600 RG32-series vehicles before its acquisition in 2014 by state-owned Denel. According to the company, the RG32M mine-hardened armoured patrol vehicle is capable of fulfilling most roles that require a balance of protection and mobility, including command, liaison and reconnaissance. There are several variants available with multirole capability, and features include upgradeable protection and ease of handling. **Length:** 5.3m **Width:** 2.2m **Height:** 2.2m **Ground clearance:** 0.5m **Weight:** 7t **Max speed:** 110km/h **Range (on road):** 1,126km **Crew:** 1 **Passengers:** 4



Denel Vehicle Systems ► RG31 Nyala

The RG-31 mine-protected APC is a 4x4 platform with a V-shaped, monocoque welded steel hull that protects the crew against antitank mine denotations and armour-piercing small-arms fire. Denel Vehicle Systems, following the 2015 purchase of previous manufacturer BAE Systems Land Systems South Africa, offers the RG-31 in several variants, including APC and utility vehicle. **Length:** 7m **Width:** 2.5m **Height:** 2.8m **Weight:** 16t **Max speed:** 100km/h **Range (on road):** 900km **Crew:** 1 **Passengers:** 7



Denel Vehicle Systems ► RG32M LTV

The RG32M Light Tactical Vehicle (LTV) is an enhanced mine-protected variant of the RG32M patrol vehicle (see separate entry). The semi-V-shaped hull and other improvements provide crew safety and blast survivability. The LTV configuration offers more internal space due to its 200mm wider hull and 50mm increased headroom. The windows are externally mounted, providing improved side-blast protection, while increasing the space available inside the cabin. **Length:** 6m **Width:** 2.2m **Height:** 2.2m **Ground clearance:** 0.43m **Weight:** 8.3t **Max speed:** 110km/h **Crew:** 1 **Passengers:** 4



Eraf Industrial Co/Penman Engineering ► Metras MRV

Penman Group developed the 8t Metras Multi-Role Vehicle (MRV) with ERAF Industrial Company to meet a Saudi military requirement. The Metras was first shown at the UK MoD's Defence Vehicle Dynamics exhibition 2012 and demonstrated at DSEI 2013 in London. **Length:** 5.41m **Width:** 2.05m **Height:** 2.37m **Ground clearance:** 0.45m **Weight:** 8t **Max speed:** 120km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 6



General Dynamics Land Systems ► Cougar 4x4

The Cougar was designed in 2004 by Force Protection (acquired by General Dynamics in 2011) to meet a US military requirement for a mine-protected vehicle. Later selected for the DoD's MRAP programme, more than 1,600 were produced to meet the requirement for Category 1 Mine Resistant Utility Vehicles. The Cougar 4x4 has also been ordered by the UK (which has designated it the Ridgeback), Iraq (where it is known as the Badger or ILAV – International Light Armoured Vehicle) and Yemen. **Length:** 6.4m **Width:** 2.7m **Height:** 3m **Ground clearance:** 0.4m **Weight:** 19.5t **Max speed:** 90km/h **Range (on road):** 675km **Crew:** 2 **Passengers:** 4



General Dynamics Land Systems ► Cougar 6x6

The Cougar 6x6 has its origins as a South African vehicle manufactured by Force Protection, a company eventually purchased by General Dynamics. Mine-protected vehicles manufactured in South Africa were sold in small numbers to the UK and US forces, but the platform underwent a major redesign in 2004. An order for 27 4x4 vehicles was placed by the USMC in April 2004 and the 6x6 variant is a further development of that. **Length:** 7.9m **Width:** 3.2m **Height:** 3.2m **Ground clearance:** 0.38m **Weight:** 29.3t **Max speed:** 90km/h **Range (on road):** 560km **Crew:** 2 **Passengers:** 8



General Dynamics UK ► Ocelot/Foxhound

Force Protection Europe and engineering company Ricardo developed the 4x4 Ocelot for the British Army's requirement for a Light Protected Patrol Vehicle (LPPV) for service in Afghanistan, which could protect against mine/improvised explosive blasts. In September 2010, the MoD selected the Ocelot from the competing designs and in November 2010 awarded a £180 million (\$224 million) contract for 200 LPPVs, designated Foxhound. Additional orders through 2013 increased the total to 400. **Length:** 5.4m **Width:** 2.07m **Height:** 2.34m **Ground clearance:** 0.34m **Weight:** 7.5t **Payload:** 2,000kg **Max speed:** 132km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 4



IMUT ► ST-100

Originally designed by Egyptian-owned South African company SASKA in 2016, the ST-100 4x4 mine-resistant ambush-protected vehicle was officially unveiled at the 2018 EDEX exhibition after the company relocated to Egypt and rebranded itself as IMUT. The ST-100 is a modular design that can carry ten different mission modules in place of the standard rear troop compartment. These modules can be exchanged within 45 to 60min, allowing the same vehicle to be adapted to carry out a variety of roles. A large number of these vehicles are expected to enter production for the Egyptian Armed Forces and Ministry of the Interior, while several foreign militaries have also reportedly expressed an interest in trialling the platform.

Length: 6.45m **Width:** 2.63m **Height:** 3.8m **Weight:** 14.5t **Max speed:** 115km/h **Crew:** 2 **Passengers:** 8



Integrated Convoy Protection ► Reva III

The Reva III 4x4 mine-protected vehicle was originally developed in 2004 by Integrated Convoy Protection to meet the demands of a private security company operating in Iraq for a vehicle that could provide protection against IEDs while retaining sufficient mobility to operate in both urban areas and across rough terrain. Part of a wider range of Reva 4x4 military and security vehicles, it is designed to be cost-effective and simple to maintain. Equipped with a V-shaped hull, it can protect its occupants against small-arms fire and mine blasts. More than 1,000 Reva IIIs have been sold to militaries, police forces and international organisations across the world. **Length:** 6.2m **Width:** 2.52m **Height:** 2.6m **Ground clearance:** 0.3m **Weight:** 10.8t **Max speed:** 100km/h **Range (on road):** 500km **Crew:** 2 **Passengers:** 8



Integrated Convoy Protection ► Reva V

The Reva V is a mine-protected vehicle manufactured by Integrated Convoy Protection (ICP). It is designed to operate in a variety of urban and rural environments whilst offering both ballistic and blast protection for its occupants. Part of the wider Reva 4x4 range, it is larger than the popular Reva III. **Crew:** 2 **Passengers:** 10



International Armored Group ► Guardian Xtreme

The Guardian Xtreme, available in 4x4 and 6x6 configurations, is designed for use by military, government and law enforcement customers. The vehicle has a V-hull to increase mine/IED blast protection and each occupant is provided with a blast attenuation seat. The Guardian Xtreme features baseline STANAG 4569 Level 2 protection, including the engine bay, which can be increased to Level 3 by using add-on lightweight armour. **Length:** 6.4m **Width:** 2.4m **Height:** 2.6m **Ground clearance:** 0.29m **Weight:** 11t **Max speed:** 120km/h **Range (on road):** 700km **Crew:** 2 **Passengers:** 10



International Armored Group ► Rila

Introduced at the February 2017 IDEX exhibition, the Rila MRAP is designed for military and law enforcement use. It is available in 4x4 and 6x6 as well as left- and right-hand drive configurations. As well as an APC, the Rila can be configured for various other roles, including ambulance, riot-control and cargo transport. **Length:** 7m **Width:** 2.8m **Height:** 2.9m **Ground clearance:** 0.33m **Weight:** 16t **Max speed:** 105km/h **Range (on road):** 500km **Crew:** 2 **Passengers:** 10



Isotrex Manufacturing ► Legion

Presented for the first time at IDEX 2017, the Legion is a 4x4 MRAP manufactured in the UAE. It is a multi-mission platform that can be adapted to perform a number of roles, including armoured personnel carrier, command post, cargo carrier, reconnaissance vehicle and special operations vehicle. Unlike many other armoured vehicles developed in the UAE, it features a purpose-built military-grade chassis rather than a COTS design, resulting in a more mobile and survivable vehicle.

Length: 6.58m **Width:** 2.56m **Height:** 3.62m **Ground clearance:** 0.36m **Weight:** 19t **Max speed:** 110km/h **Range (on road):** 850km **Crew:** 3 **Passengers:** 8



Iveco Defence Vehicles/Krauss-Maffei Wegmann ► MPV/GFF 4

Iveco Defence Vehicles cooperated with KMW to develop the Medium Protected Vehicle (MPV). This vehicle is designed to have sufficient payload, protection, capacity and mobility to undertake a range of specialist applications, such as route clearance and casualty treatment. Available in a 4x4 configuration, the MPV is operated by Italy in the C-IED, ambulance and C2 configurations as the Medium Multirole Tactical Vehicle (VTMM), and by the Lebanese Army. KMW also markets the platform as the Protected Command and Functional Vehicle, Class 4 (GFF 4). **Length:** 7.4m **Width:** 2.53m **Height:** 3.08m **Weight:** 25t **Max speed:** 90km/h **Range (on road):** 1,100km **Crew:** 2 **Passengers:** 8



Krauss-Maffei Wegmann ► Dingo 2

KMW's 4x4 Dingo 2 is a follow-on to the Dingo 1 All Protected Vehicle (APV) developed under contract to the German BwB procurement agency in the mid-1990s for use by German peacekeepers in the former Yugoslavia. Some 150 Dingo 1s were produced for the German Army. In 2002-03, KMW developed the Dingo 2 based on the Mercedes-Benz Unimog U-5000 chassis to provide an all-protected vehicle with more capacity. In 2004, Germany placed the first order for 52 vehicles to be delivered that same year and Austria placed an order for 20 vehicles in September 2004. **Length:** 6.6m **Width:** 2.39m **Height:** 2.7m **Weight:** 14.5t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 10



Kremenchuk Automobile Plant (KrAZ)/Streit Group ▶ Shrek

The Shrek is an MRAP vehicle developed by the Streit Group in collaboration with the Ukrainian Kremenchug Automotive Plant (KrAZ). It is available in three different configurations: an APC, a first aid response vehicle and an EOD variant. **Length:** 7.79m

Width: 2.64m **Height:** 3.14m **Weight:** 16t **Range (on road):** 600km **Crew:** 2 **Passengers:** 10



Mobile Land Systems ▶ Caprivi

The Caprivi is a 4x4 MRAP that is manufactured in the UAE by Mobile Land Systems. Although the Caprivi Mk 1 design was sold to Chinese company Poly Technologies to market as the CS/VP3, the Caprivi Mk 3 remains part of Mobile Land Systems' portfolio. Inspired by South African MRAPs such as the Casspir and Reva, it features a tall V-shaped armoured body capable of accommodating up to 13 people. In addition to the standard APC variant, the Caprivi can also be configured for other roles such as ambulance or C2 vehicle. **Length:** 7.3m **Width:** 2.53m **Height:** 2.98m **Weight:** 16t **Crew:** 3 **Passengers:** 10



Mobile Land Systems ▶ Viper MRAP

The Viper is a 4x4 MRAP vehicle designed and manufactured in the UAE. It is equipped with a powerful engine and independent suspension to ensure that it maintains a high degree of mobility in rough terrain and extreme conditions. In addition to the standard MRAP version with seating for ten people, the Viper can be configured as an ambulance, command post or fire support platform. A 6x6 AFV variant (presumably armed with heavy weapons) is also available. **Length:** 6.31m **Width:** 2.47m **Height:** 2.63m **Weight:** 18t **Crew:** 2 **Passengers:** 8



Navistar Defense ▶ MaxxPro

The International MaxxPro was developed by Navistar for the MRAP programme and the US Army's Medium Mine Protected Vehicle project. Selected for the MRAP Category 1 requirement, Navistar has delivered around 9,000 MaxxPro units in nine major variants to US forces and their allies. The MaxxPro Plus model features dual rear wheels for increased load-carrying capacity, while the MaxxPro Dash is a lighter, more compact model optimised for use in Afghanistan. **Length:** 6.5m **Width:** 2.6m **Height:** 3m **Ground clearance:** 0.35m **Weight:** 24t **Max speed:** 105km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 6



Nexter Systems ▶ Aravis

Nexter unveiled its 12.5t Aravis at Eurosatory 2008, and in April 2009, the company received a launch order for 15 vehicles to equip French Army engineer units conducting route clearance operations in Afghanistan. The company describes the protection level as '4-4-4': STANAG 4569 Level 4 ballistic protection able to defeat 14.5mm threats; Level 4 mine protection able to defeat 10kg mines under the belly and wheels; and all-round Level 4 protection against 155mm artillery splinters. **Length:** 6m **Width:** 2.5m **Height:** 2.5m **Ground clearance:** 0.47m **Weight:** 12.5t **Max speed:** 100km/h **Range (on road):** 750km **Crew:** 1 **Passengers:** 7



Norinco ▶ VP11

Norinco's VP11 4x4 MRAP was introduced around 2014 and is believed to be an evolution of the company's earlier 8M MRAP developed in cooperation with South Africa's EW12. Able to seat up to eight personnel, the VP11 has a V-shaped hull to deflect underbelly blasts away from its occupants and it can be configured for either military or internal security operations. Customers can opt to arm the vehicle with either a manually operated protected weapon station or an RWS. **Crew:** 2 **Passengers:** 6



Oshkosh Defense ► M-ATV

The Oshkosh 4x4 MRAP All-Terrain Vehicle (M-ATV) family of vehicles is designed to provide high levels of protection and mobility in off-road combat environments such as in Afghanistan. Oshkosh has produced about 8,700 M-ATVs for the US DoD, 800 for the UAE and 1,859 for Saudi Arabia. **Length:** 6.3m **Width:** 2.5m **Height:** 2.7m **Weight:** 12.5t **Max speed:** 105km/h **Range (on road):** 510km **Crew:** 2 **Passengers:** 3



Osprea Logistics ► Mamba Mk7

The Mamba Mk7 is one of the latest evolutions of the venerable South African Mamba mine-protected vehicle platform.

Available in six configurations, the Mk7 offers a greater level of protection to its occupants, increased mobility and a modular design. Although it is typically manufactured in the US, Osprea Logistics can also assist in setting up local production lines for the Mamba Mk7 if customers want to localise production.

Length: 6.33m **Width:** 2.67m **Height:** 2.6m **Ground clearance:** 0.4m **Weight:** 15t **Max speed:** 105km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 9



Otokar ► Kale

Otokar's 4x4 15.4t Kale features a V-shaped hull of welded steel and was unveiled in 2014. The rear troop compartment is provided with ballistic windows for enhanced situational awareness. Passengers enter and exit the vehicle through double doors in the rear of the hull. **Length:** 6.9m **Width:** 2.57m **Height:** 2.74m **Ground clearance:** 3.8m **Weight:** 16t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 3 **Passengers:** 10



Otokar ► Kaya II

Otokar developed the Kaya II, based on a Mercedes-Benz FGA 14.5 chassis, to meet demand for a personnel carrier with MRAP-like protection. The Kaya II provides mine and ballistic protection, along with high mobility, across a range of terrains and climatic conditions. **Length:** 6.45m **Width:** 2.56m **Height:** 2.65m **Ground clearance:** 0.49m **Weight:** 14.5t **Max speed:** 95km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 8



OTT Technologies ► Puma M26-15

OTT developed the Puma M26-15 4x4 medium mine-protected vehicle from its earlier Puma, which was deployed in Iraq. The vehicle was unveiled in 2010, and in 2012, the Kenyan Army received 67 vehicles ordered the previous year. **Length:** 5.8m **Width:** 2.3m **Height:** 2.7m **Ground clearance:** 0.3m **Weight:** 8.13t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 8



OTT Technologies ► Puma M36 Mk 5

OTT developed the Puma M36 Mk 5 to meet the needs of African customers for a lower-cost vehicle that offers a greater payload than its Puma M26-15. Development was completed in early 2012. The Puma M36 Mk 5 features an all-welded steel armour V-shaped hull mounted on the Ashok Leyland Stallion truck driveline. **Length:** 6.6m **Width:** 2.6m **Height:** 2.8m **Ground clearance:** 0.3m **Weight:** 14t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 10



Panus ▶ Phantom 380-X1

The Phantom 380-X1 is a 4x4 multipurpose armoured vehicle produced by Thailand's Panus. It is powered by a six-cylinder turbo engine with an undercarriage capable of withstanding explosions at Level 4B. **Length:** 8.31m **Width:** 2.5m **Height:** 3.2m **Weight:** 19t **Max speed:** 110km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 9



Poly Technologies ▶ CS/VP3

The CS/VP3 is a 4x4 MRAP developed by Poly Defence Solutions for export. First unveiled at the 2012 DSA exhibition in Malaysia, the CS/VP3 has since been exported to several African countries for use by military and police forces. **Length:** 7.58m **Width:** 2.45m **Height:** 3.25m **Ground clearance:** 0.38m **Weight:** 15t **Max speed:** 100km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 10



Remdiesel ▶ Kamaz-53949 Taifun-K

The Kamaz-53949 Taifun-K (Typhoon-K) is a 4x4 MRAP vehicle manufactured in Russia by Remdiesel, a subsidiary of Kamaz. Originally developed in 2010 as a private venture to meet a Russian Army requirement for an MRAP-type vehicle, its reliance on Western components caused it to suffer from the effects of sanctions placed on Russia. Nevertheless, the vehicle has since been offered to the Russian Army and foreign users in its standard troop-carrying configuration. It is capable of accommodating up to ten personnel and is available in a variety of other variants, including an ambulance and ATGM carrier. **Length:** 6.7m **Width:** 2.5m **Height:** 2.8m **Weight:** 16t **Max speed:** 100km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 8



Remdiesel ▶ Kamaz-63968 Taifun-K

The Kamaz-63968 Taifun-K (Typhoon-K) is part of the Taifun family of mine-resistant armoured vehicles manufactured by Kamaz subsidiary Remdiesel. One of the two 6x6 variants of the family, the Kamaz-63968 is an APC variant capable of accommodating up to 16 dismounts. Like the other members of the Taifun-K family, it utilises several common components and features a V-shaped armoured hull designed to withstand small-arms fire, mines and IEDs. Following successful trials, the Kamaz-63968 entered service with the Russian armed forces.

Length: 8.2m **Width:** 2.5m **Height:** 2.93m **Ground clearance:** 0.57m **Weight:** 24t **Max speed:** 105km/h **Range (on road):** 1,200km **Crew:** 2 **Passengers:** 16



Saudi Groups ▶ Al-Masmak/Nyoka Mk 2

The Al-Masmak ('Fortress' in Arabic) 4x4 mine-protected APC was developed by Saudi Groups in cooperation with IADSA (since acquired by Paramount Group). Saudi Groups unveiled the Al-Masmak in 2011 and IADSA displayed the vehicle, under the local name Nyoka Mk 2, at Africa Aerospace & Defence in September 2012. **Length:** 6.1m **Width:** 2.6m **Height:** 2.45m **Ground clearance:** 0.37m **Weight:** 13t **Max speed:** 150km/h **Range (on road):** 700km **Crew:** 3 **Passengers:** 8



Stark Motors ▶ Nomad

The Nomad is a 4x4 mine-resistant armoured vehicle developed by Stark Motors of Qatar. Mounted on a purpose-built 18t chassis, it is designed to operate in challenging off-road terrain. Able to seat up to ten personnel, the Nomad has a V-shaped armoured hull capable of meeting STANAG 4569 Level 3 standards of blast protection and Level 4 standards of ballistic protection. Several variants of the Nomad have been proposed, including a standard APC, C2 vehicle, ambulance and a medical evacuation version. **Crew:** 2 **Passengers:** 8



Stark Motors ▶ Thunder

The Thunder is a 4x4 mine-resistant armoured vehicle developed by Stark Motors of Qatar. More compact than the company's Nomad mine-resistant armoured vehicle, it is better suited to operations in urban environments. Able to seat up to eight personnel, the Thunder has a custom-made monocoque hull offering blast protection in accordance with STANAG 4569 Level 3 standards and CEN 1063 BR7 standards of ballistic protection. Several variants of the Thunder have been proposed, including a standard APC, C2 vehicle and observation vehicle.

Crew: 2 **Passengers:** 6



Streit Group ▶ Scorpion

The 4x4 Scorpion can be configured for a variety of roles, including C2, reconnaissance, patrol and forward observation. It features a modular design, with the engine and suspension mounted separately from the V-shaped monocoque shell, to maximise both vehicle performance and occupant survivability. The crew compartment provides STANAG 4569 Level 3 ballistic protection, while the floor provides STANAG 4569 Level 2+ mine protection. **Length:** 5.75m **Width:** 2.49m **Height:** 2.4m **Weight:** 11t **Max speed:** 110km/h **Range (on road):** 800km **Crew:** 2 **Passengers:** 4



Streit Group ▶ Typhoon

The Typhoon is a 4x4 multipurpose MRAP. The vehicle can be configured for a range of missions, including APC, C2, EOD, patrol, forward observation, reconnaissance and casualty evacuation. **Length:** 6.89m **Width:** 2.46m **Height:** 3.01m **Ground clearance:** 0.77m **Weight:** 13t **Max speed:** 100km/h **Range (on road):** 1,000km **Crew:** 2 **Passengers:** 10



SVOS ► VEGA

SVOS developed the mine-protected 4x4 VEGA (Vehicle with Enhanced Ground performance and Armour protection) with support from the Czech MoD and Ministry of Industry and Trade. The VEGA was publicly unveiled at IDET in May 2011.

Length: 7m **Width:** 2.59m **Height:** 2.95m **Ground clearance:** 0.53m **Weight:** 15t **Max speed:** 110km/h **Range (on road):** 1,000km **Crew:** 3 **Passengers:** 11



The Armored Group (TAG) ► BATT UMC

The BATT UMC is a mine-protected variant of the BATT armoured personnel carrier 4x4 multipurpose armoured vehicle, both developed by The Armored Group (TAG) using the Ford F-550 COTS pickup truck chassis. Unveiled at IDEX 2021, the BATT UMC features STANAG 4569 Level 2a/2b blast protection and can carry a payload of up to 1.6 tonnes in its rear cargo bed. Aimed at both military and law enforcement customers, the BATT UMC can be configured as an armoured personnel carrier, C2 centre, ambulance or VIP transport.

Length: 6.01m **Width:** 2.32m **Height:** 2.42m **Ground clearance:** 0.36m **Weight:** 11.7t **Max speed:** 100km/h **Crew:** 2 **Passengers:** 8



Tumosan ► Pusat

The 4x4 Pusat mine-protected vehicle is the first armoured vehicle designed and produced by Tumosan which manufactures tractors, diesel engines and forklift trucks.

Weight: 12t **Max speed:** 110km/h **Range (on road):** 700km



Ukrinmash ► Fiona

The Fiona is a 6x6 MRAP armoured vehicle based on the underpinnings of the KrAZ-6323 all-wheel-drive off-road cargo truck. Publicly unveiled for the first time at IDEX 2015 in the UAE, this vehicle was developed by the Kremenchug Automotive Plant for sale both at home and abroad. It is marketed as an off-road mine-protected vehicle that can be used to transport SF personnel, cargo or equipment across difficult terrain. **Length:** 7.48m **Width:** 2.55m **Height:** 3.18m **Max speed:** 80km/h **Range (on road):** 600km **Crew:** 2 **Passengers:** 14



Ukrinmash ► Hulk

The Hulk is a 4x4 MRAP armoured vehicle based on the underpinnings of the KrAZ-5233 off-road vehicle. Publicly unveiled for the first time at the October 2016 Arms and Security exhibition in Kiev, this vehicle was developed by the Kremenchug Automotive Plant (KrAZ) for sale both at home and abroad. It is marketed as an off-road mine-protected vehicle that can be used to transport SF personnel, cargo or equipment across difficult terrain. **Length:** 6.18m **Width:** 2.57m **Height:** 3.04m **Ground clearance:** 0.3m **Weight:** 16t **Max speed:** 90km/h **Crew:** 2 **Passengers:** 10



Ural Automotive Plant ► Ural-63095 Taifun-U

The Ural-63095 Taifun-U (Typhoon-U) is a 6x6 multipurpose mine-resistant vehicle developed by Ural to meet a requirement from the Russian Armed Forces for a new family of MRAPs. Although it functions as a basic APC in its standard configuration, its modular construction allows for the troop compartment to be exchanged for other specialised mission modules should the vehicle need to be adapted to carry out different roles. Part of a family of 4x4 and 6x6 MRAPs developed by Ural, the Ural-63095 was adopted in limited numbers by the Russian Armed Forces as the Taifun-U. Ultimately, it lost out to a competing design offered by Kamaz. **Length:** 9.27m **Width:** 2.55m **Height:** 3.4m **Ground clearance:** 0.5m **Weight:** 22.5t **Max speed:** 100km/h **Range (on road):** 1,000km **Crew:** 3 **Passengers:** 14





SPECIFICATIONS

ARMoured ENGINEER VEHICLES

This section provides a guide to armoured engineer vehicles that are under development, in production or being substantially modernised.

The specifications listed are intended to provide a handy reference source for the basic parameters that describe the vehicle's performance. Most data has been supplied by the manufacturers, who can give more detailed information on request.

Entries are listed alphabetically by company.

If you think your product should be listed, please contact the team at insight@shephardmedia.com to ensure it appears in the *Shephard Defence Insight* online database (shephardmedia.com/defenceinsight) and is included in the next handbook edition.

ABOVE: The Bison mobile recovery vehicle of the Canadian Army engaged in Exercise *Remorquer Tactique* in October 2021.
(Photo: Canadian Armed Forces)

Anniston Army Depot ► M1150 ABV

The M1150 Assault Breacher Vehicle (ABV) project, launched by the USMC in 2002, is a joint programme to meet the requirements of both the US Army and USMC for an armoured engineer vehicle to breach minefields and clear obstacles. Anniston Army Depot, Alabama, converts surplus US Army M1 Abrams MBTs into ABVs. The tank's turret is replaced by an all-welded aluminium structure fitted with explosive reactive armour. **Length:** 7.9m **Width:** 3.6m **Height:** 2.4m **Weight:** 50t **Max speed:** 70km/h **Range (on road):** 500km **Crew:** 2



BAE Systems ► M88A2 HERCULES

The M88 Heavy Equipment Recovery Combat Utility Lift and Evacuation System (HERCULES) is an armoured recovery vehicle originally developed in the 1960s to recover the US Army's M48 and M60 main battle tanks (MBTs). As US Army MBTs have increased in weight, the M88 has been upgraded to enable it to safely recover heavier vehicles, most recently to the M88A3 standard. **Length:** 8.58m **Width:** 3.6m **Height:** 3.1m **Weight:** 63.5t **Lifting weight:** 31,800kg **Max speed:** 48km/h **Range (on road):** 483km **Crew:** 3 **Passengers:** 4



BAE Systems ► Terrier

BAE Systems received a £350 million (\$425 million) UK MoD contract in July 2002 to develop the Terrier armoured combat engineer vehicle to replace the FV180 Combat Engineer Tractor in service with the Royal Engineers. The prototype was unveiled in May 2005 and was followed by four demonstrators. Work on 60 production vehicles began in 2010, with the last vehicle delivered in December 2014. **Length:** 6m **Width:** 2.5m **Height:** 2m **Weight:** 30t **Lifting weight:** 5,000kg **Max speed:** 70km/h **Crew:** 2



BAE Systems ▶ Titan

In 2001, Vickers Defence Systems (now part of BAE Systems) received a £250 million (\$300 million) MoD contract to build 66 Engineer Tank Systems (ETS), consisting of 33 Titan Armoured Bridge Layers and 33 Trojan Armoured Vehicle Royal Engineers, to equip the British Army's Royal Engineers. The last Titan was delivered in 2014. The ETS is the first purpose-designed heavy armoured engineer vehicle to be developed for the British Army. **Length:** 11.5m **Width:** 4m **Height:** 4m **Weight:** 62.5t **Max speed:** 59km/h **Range (on road):** 450km **Crew:** 3



BAE Systems ▶ Trojan

In 2001, Vickers Defence Systems (now part of BAE Systems) received a £250 million (\$300 million) UK MoD contract to build 66 Engineer Tank Systems (ETS), consisting of 33 Trojan Armoured Vehicle Royal Engineers and 33 Titan Armoured Bridge Layers, to equip the British Army's Royal Engineers. In March 2004, the first prototype Trojan was delivered to the Royal Engineers Trials and Development Unit at Bovington. A total of 33 Trojans are now in service. Deliveries of both vehicles are complete. Both the Trojan and Titan are based on the chassis of the Challenger 2 MBT. **Length:** 11.5m **Width:** 4.2m **Height:** 2.5m **Weight:** 62.5t **Lifting weight:** 6,500kg **Max speed:** 59km/h **Range (on road):** 450km **Crew:** 3



Critical Solutions International ▶ Husky Mk III

The Husky Mk III vehicle-mounted mine detector (VMMD) was developed by Critical Solutions International in partnership with DCD Protected Mobility. It is the latest version of the mine clearance system, previously known as Chubby, developed by DCD in the 1970s for the South African Defence Force to clear routes of mines in Angola and Namibia. The system consists of two Husky platforms, a mine detection vehicle and a towing/mine detection vehicle. **Length:** 7.3m **Width:** 2.5m **Height:** 3.1m **Weight:** 8.3t **Max speed:** 72km/h **Range (on road):** 800km **Crew:** 1



Critical Solutions International/DCD Protected Mobility ▶ Husky 2G

The Husky 2G vehicle-mounted mine detector was developed by Critical Solutions International (CSI) in partnership with DCD Protected Mobility. The Husky 2G is a two-man derivative of the single-occupant Mk III Husky and has the same repairability and mobility characteristics, with increased protection and survivability. The additional operator uses additional sensors, more robust communications packages and an RWS. The Husky 2G has high-sensitivity low-metal content detectors, ground-penetrating radar, powerful air blowers and a robotic arm. **Length:** 7.3m **Width:** 2.5m **Height:** 3.2m **Weight:** 9.2t **Max speed:** 72km/h **Range (on road):** 750km **Crew:** 2



FFG Flensburger Fahrzeugbau Gesellschaft ▶ Wisent 2 AEV/ARV

FFG unveiled its Wisent 2 conversion of the Leopard 2 MBT in 2010. Surplus tanks are converted into a multifunction platform which can then be configured as either an armoured engineer vehicle or armoured recovery vehicle. The two variants are 95% logistically identical. The vehicle includes an intelligent hydraulic and electronics system. Conversion between the two configurations can be done in less than 24h at forward locations. **Length:** 10.7m **Width:** 3.6m **Height:** 2.8m **Weight:** 60t **Lifting weight:** 4,000kg **Max speed:** 70km/h **Crew:** 3



FNSS Savunma Sistemleri A.Ş. ▶ AACE

The Kunduz Amphibious Armoured Combat Earthmover (AACE) is an amphibious, tracked armoured engineer vehicle designed for the preparation of riverbanks during river-crossing operations. It is able to bulldoze, rough grade, excavate, haul and scrape, but its high amphibious capability also provides a major role in preparing riverbanks for convoy crossings. Produced by FNSS in Turkey, it is based upon the BAE Systems M9 Armored Combat Earthmover (ACE) developed for the US Army. **Length:** 6.2m **Width:** 3.3m **Height:** 3.2m **Weight:** 19.5t **Max speed:** 45km/h **Range (on road):** 400km **Crew:** 2



FNSS ▶ OTTER - Rapid Deployable Amphibious Wet Gap Crossing System

The OTTER System is an 8x8 amphibious bridge and ferry system designed by FNSS Savunma Sistemleri A.Ş. (FNSS) for rapid and safe wide wet gap crossing operations. Multiple OTTER systems can be combined to cross distances of up to 150m. It can climb up to 50% gradient and move on 30% side slope. **Length:** 13m **Width:** 3.5m **Height:** 4.1m **Weight:** 36t **Max speed:** 50km/h **Range (on road):** 600km **Crew:** 3



Krauss-Maffei Wegmann ▶ Leguan Leopard 2

The Leguan bridge-laying system can be mounted on various tracked and wheeled chassis, including the Leopard 2 main battle tank. It consists of a mechanism for transporting and laying either one 26m-long MLC80 bridge or two 14m-long MLC80 bridges, both of which can support loads weighing up to 72t. As of mid-2017, 17 countries had bought the Leguan system, including six for integration on the Leopard 2. **Length:** 26m **Width:** 4m **Height:** 3.95m **Weight:** 62t **Max speed:** 65km/h **Range (on road):** 400km **Crew:** 2



Leonardo DRS ▶ JAB

The US Army is leading the Joint Assault Bridge (JAB) project to replace legacy M60A1-based bridge launchers in service with itself and USMC with an M1-based armoured vehicle-launched bridge (AVLB). A draft executive summary for the production and deployment phase for JAB was released in December 2014. Legacy AVLBs were to have been replaced by the M104 Wolverine AVLBs developed in the 1990s. General Dynamics Land Systems delivered 44 Wolverines to the army from 2003 before the project, which was expected to deliver 465 platforms, was cancelled for budgetary reasons.



Liebherr Aerospace & Transportation ► G-BKF Recovery Crane

Liebherr has manufactured more than 800 military cranes with lifting capacities from 10-500t since 1977. First displayed at Eurosatory in June 2016, the G-BKF is a recovery crane based on the chassis of an 8x8 Rheinmetall MAN truck. In June 2017, Germany's defence procurement agency placed an order for 33 of these cranes for delivery between 2018 and 2021. **Length:** 11.8m **Width:** 2.75m **Height:** 3.75m **Weight:** 44t **Lifting weight:** 22,800kg **Crew:** 2



Nexter Systems ► EBG-VAL

In early February 2014, Nexter delivered the last of 42 upgraded EBG-VAL (Engin Blindé du Génie Valorisé) armoured engineer vehicles to the French Army. The vehicle is designed to open obstructed routes and meant for clearance or destruction of miscellaneous obstacles and anti-mine protection. It also supports counter-mobility by laying small-mined zones, creating obstacles (banks, ditches, barricades) and by destroying roads. **Length:** 9m **Width:** 3.1m **Height:** 2.28m **Weight:** 36t **Max speed:** 65km/h **Range (on road):** 600km **Crew:** 2



Norinco ► Type GCZ110

Norinco announced in 2014 that it had completed development of the Type GCZ110 armoured engineer vehicle based on a modified Type 79 tank chassis equipped with a dozer blade, crane and winch. The suspension has been changed to six wheels on each track like the Type 96 tank as opposed to the five wheels on the Type 79. It is believed it uses the 730hp 12150L-7BW diesel engine used in the Type 79. The Type 79's turret has been removed and replaced with a hydraulically operated crane. This has a telescopic jib, which can extend to 3.5m and lift a maximum weight of 16t. **Length:** 9.86m **Width:** 3.34m **Height:** 2.95m **Weight:** 37.5t **Lifting weight:** 16,000kg **Crew:** 3



Norinco ► Type GSL130

The Type GSL130 Tracked Comprehensive Mine-Clearing System, which was first unveiled by Norinco in 2014, is designed to breach antitank minefields. It is based on the Type 69/Type 79 MBT hull with a full- or track-width mine-clearing plough system, which can be replaced by a roller mine-clearing system, mounted at the front of the hull. **Weight:** 38.5t **Crew:** 2



OBRUM ► MID

MID (maszyna inżynieryjno-drogowa – road engineering machine) is a tracked armoured engineer vehicle (AEV) for the export market based on the chassis of OBRUM's PT-91-series MBT, itself a derivative of the T-72. OBRUM built eight MID AEVs for the Polish Army and three MID-M models for the Malaysian Army. The prototype was developed in 1991. This was followed by trials through the rest of the decade and production started in the late 1990s. **Length:** 8.3m **Width:** 3.6m **Height:** 2.7m **Weight:** 46.5t **Lifting weight:** 7,000kg **Max speed:** 60km/h **Range (on road):** 650km **Crew:** 5



Pearson Engineering ► MW330 Medium MineWolf

The MW330 Medium MineWolf is designed to combine the capabilities of the manned MW370 with the manoeuvrability of the remote-controlled MW240. The vehicle was developed in 2009 before being displayed in January 2010. It can be operated as a manned vehicle with the cab fitted or as an unmanned vehicle operated by remote control either with the cab (for certain tasks only) or without the cab, in which case it can be fitted with an optional camera system. **Length:** 4.9m **Width:** 2.3m **Height:** 3.75m **Weight:** 15.8t **Crew:** 1



Pearson Engineering ▶ MW370 MineWolf

The MW370 MineWolf is fitted with tiller or flail attachments to clear all types of anti-personnel and heavy antitank mines containing up to 15kg of TNT. The vehicle underwent testing in Afghanistan in 2008 and was accredited for use by the UN Mine Action Service. In October 2008, two vehicles were deployed in Chile to undertake clearance operations in the high-altitude and heavily mined borders with Argentina, Bolivia and Peru. In November 2009, six vehicles entered service in Angola.

Length: 6.2m **Width:** 2.6m **Height:** 3.8m **Weight:** 26.3t **Crew:** 1



Pearson Engineering ▶ PEROCC

The 4x4 Pearson Engineering Route Opening and Clearing Capability (PEROCC) was unveiled at the AUSA Annual Meeting in October 2012. It is designed to provide a single-vehicle solution for tactical counter-IED solutions. Route proofing is provided by full-width rollers and frangible joints allow the roller banks to readily detach from the chassis in the event of a blast. Hydraulically operated pins allow front and rear equipment to be jettisoned quickly in an emergency, as well as enabling rapid replacement. **Length:** 12.2m **Height:** 4.1m **Weight:** 30t **Lifting weight:** 1,500kg **Max speed:** 40km/h **Crew:** 3



Rheinmetall Landsysteme ▶ Kodiak AEV 3

The Kodiak Armoured Engineer Vehicle (AEV) 3, based on the Leopard 2 MBT chassis, was developed by Rheinmetall in collaboration with RUAG Land Systems. The Swiss Army was the launch customer with a \$117 million order for 12 Kodiaks in 2007. The Netherlands and Sweden placed a joint order, worth €100 million (\$111 million), in January 2008 for ten vehicles for the Netherlands and six for Sweden. Deliveries to Switzerland began in 2009, with deliveries to the Netherlands and Sweden commencing in 2011. **Length:** 10.2m **Width:** 3.54m **Height:** 2.3m **Weight:** 70t **Lifting weight:** 3,500kg **Max speed:** 68km/h **Crew:** 3





EQUIPMENT

TURRETS

This section provides a guide to crewed and uncrewed turrets that are under development, in production or mounted on in-service vehicles.

The specifications listed here are intended to provide a handy reference source for the basic parameters that describe the system's performance. Most data has been supplied by the respective manufacturers, who can give more detailed information on request.

Entries are listed alphabetically by company.

If you think your product should be listed, please contact the team at insight@shephardmedia.com to ensure it appears in the *Shephard Defence Insight* online database (shephardmedia.com/defenceinsight) and is included in the next handbook edition.

ABOVE: Rheinmetall's Lance 30mm two-man turret, fitted aboard a Boxer CRV of the Australian 2nd/14th Light Horse Regiment.
(Photo: Australian Army)

ARES AEROSPACIAL E DEFESA

REMAN

At the September 2016 BID Brasil exhibition, Ares introduced the REMAN small-calibre turret suitable for use on light- and medium-weight AFVs. Ares developed the REMAN in anticipation the Brazilian Army will equip a portion of its Iveco VBTP-MR Guarani 6x6 AFV fleet with a less expensive option than the Ares REMAX RWS. Weight: 550kg Crew: 1

TORC30

The TORC30 is a stabilised unmanned turret armed with a Rheinmetall Mk30-2/ABM 30mm cannon being developed by Ares, an Elbit subsidiary, and the Brazilian Army's CTEx Science and Technology Centre for integration on various wheeled and tracked armoured vehicles. The TORC30 is intended to engage both ground and air targets using Rheinmetall's 30mm air burst munition.

DENEL LAND SYSTEMS

Light Combat Turret (LCT)/Modular Combat Turret (MCT)

Part of the Advanced Modular Infantry Combat Turret (AMICT) family, the Light Combat Turret (LCT) or Modular Combat Turret (MCT) was developed for the South African National Defense Force's (SANDF's) Badger Infantry Combat Vehicle (ICV). Based upon Denel Land Systems' Fighting Compartment Module (FCM), it allows various armour packages, sighting systems and weapons to be integrated into the same turret design, thus ensuring a high degree of commonality and reducing logistical burdens, support costs and crew training time. Length: 491.5cm Width: 283cm Height: 81cm Weight: 2,500kg Crew: 2

T6 Turret

Building on its experience producing the G6 6x6 155mm SPH, Denel Land Systems developed the T6 155mm/52cal turret, first shown publicly in 2003, for the export market. Length: 12.49m Width: 4.75m Height: 3.1m Weight: 46t Range: 650km Range of main armament: 52,500m Crew: 4

Tactical Remote Turret (TRT)

The Tactical Remote Turret (TRT) is an unmanned turret designed to accommodate medium-calibre weapon systems. Intended for installation on APCs and IFVs, it consists of a common base structure and man-machine interface that can support a range of different 20mm, 25mm and 35mm cannons, as well as optional ATGM launchers and a coaxial machine gun. Among the variants that have been showcased by Denel are the TRT-B25 armed with a 25mm M242 cannon, the TRT-R30 armed with a 30mm 2A42 cannon and the TRT-R30MK which incorporates two ATGM launchers and the 30mm 2A42 cannon. Width: 132.2cm Height: 142cm Weight: 1,800kg Crew: 1

TRT-R30MK

The TRT-R30MK is a new version of the TRT remotely operated gun turret family. The system draws on development from systems such as the TRT-25, can achieve a firing range of 2,500m and can easily be

adapted to carry weapons such as NATO-standard 30mm cannons.

DENEL VEHICLE SYSTEMS

Overhead Manned Turret

The Overhead Manned Turret (OMT) is designed to offer a cost-effective weapon station that protects the gunner without compromising situational awareness. Capable of being armed with a 7.62mm machine gun, a 12.7mm machine gun or a 40mm automatic grenade launcher, it can be mounted on light armoured vehicles for self-defence or to provide fire support. Additional optional equipment can be installed to suit customer requirements, including an electric drive to assist with traverse. Height: 61cm Weight: 560kg Crew: 1

ELBIT SYSTEMS

Sabrah

The Sabrah manned turret system was developed by Elbit Systems in cooperation with the Israel Defense Force's Ordnance Corps and launched in August 2020. Operated by a crew of two and armed with an automatically-loaded 105 mm main gun, it is designed to equip tracked and wheeled light tanks or fire support vehicles. Although the turret itself is new, it leverages several proven subsystems to ensure that it is reliable and cost-effective. Elbit systems markets the turret as both a standalone system and as part of a family of light tanks based on the General Dynamics European Land Systems ASCOD 2 and Pandur II 8x8 platforms. Crew: 2

UT30 MK2/MT30

Leveraging its experience producing the UT30 turret for armoured vehicles, Elbit developed the UT30 MK2, which is available in an unmanned (UT30 MK2) and a manned (MT30) configuration. Standard armament typically consists of a Northrop Grumman 30/40mm Mk44 Bushmaster automatic cannon and an ATGM launcher, but its modular design allows customers to integrate other weapon systems, sensors and armour protection packages into the turret to meet their specific requirements. Like its predecessor, the UT30 MK2 can be mounted on the hull of the host vehicle without penetrating the armour and consuming valuable internal volume. Crew: 2

UT30 MK1

The UT30 unmanned turret, which can be armed with either a 25 or 30mm cannon, is designed for installation on heavy wheeled and tracked armoured vehicles. Capable of being operated by one person, it can be mounted on the roof of the vehicle without requiring the armour to be penetrated. Numerous options, including armour protection and ATGM launchers, are available to meet different customer requirements. Elbit has exported the UT30 to several militaries, but the system has now been superseded by the UT30 MK2, which is also available in a manned configuration. Crew: 1

ELECTRO OPTIC SYSTEMS (EOS)

T2000

The T2000 is a medium-calibre turret that will be produced in Australia for export and potential



The FNSS ARCT was designed from the onset as a dedicated ATGM turret. (Photo: FNSS)

applications with the Australian Defence Force. Available in both crewed and uncrewed configurations, this modular turret can accommodate a range of different armaments, armour packages and sensors to meet different customer requirements. It is being offered for three different tenders, including the Australian Land 400 Phase 3 programme. Weight: 6,000kg Crew: 2

FNSS SAVUNMA SISTEMLERİ A.Ş.

ARCT

FNSS Anti-Tank Remote Controlled Turret (ARCT) has been developed within the context of the Turkish Land Forces Anti-Tank Vehicles (ATV) Program. It was designed from the onset as a dedicated ATGM turret with a low silhouette, armour protection, ergonomics, easy conversion to tripod launch configuration and sighting system. It can be equipped with both KORNET-E and OMTAS ATGM missiles. Crew: 1

Saber-25

The Saber-25 is a medium-calibre one-man turret that can be integrated on wheeled and tracked AFVs. It builds on the experience of FNSS producing the Sharpshooter Mk 1 and Mk 2 turrets, which equip 46 of the AV8 AFVs (see separate entry) which DeFtech, with the assistance of FNSS, is producing for the Malaysian Army. Width: 160cm Weight: 1,800kg Crew: 1

Sharpshooter

The Sharpshooter, developed by FNSS, is a single-user turret family designed to provide fire support to infantry from various configurations of tracked and wheeled armoured vehicles. It is in operation in Turkey, Malaysia and six are due to be integrated onto the Philippine Army's armoured personnel carriers by October 2021. FNSS has since launched a newer Saber-25 turret that is marketed alongside the Sharpshooter. Length: 260cm Width: 174cm Height: 95cm Weight: 1,700kg Crew: 1

Teber-30 Two-Man Turret

The Teber-30 is a medium-calibre two-man turret designed for armoured combat vehicles. It is day/night capable with an onboard fire control computer and a two-axis stabilised independent sight system with a long-wave or mid-wave thermal imager, a day camera with wide and narrow angles of view and a laser

range-finder. An automatic target tracking system is also fitted on the sight system. Weight: 3,850kg Crew: 2

GENERAL DYNAMICS LAND SYSTEMS

GD30

General Dynamics Land Systems (GDLS) has developed a two-person turret designed to accommodate the Northrop Grumman Mk44S Bushmaster II 30mm cannon. Called the GD30, little information has been publicly released regarding the specifications and capabilities of this turret, though it is known to have been demonstrated on the GDLS Light Armored Vehicle II Double V-Hull (LAV II DVH) 8x8 armoured vehicle in 2020. Crew: 2

JOHN COCKERILL DEFENSE

Cockerill 3000

The Cockerill 3000 (C3000) series is a modular turret capable of accommodating 25mm, 30mm, 30/40mm, 35mm and 50mm automatic guns or direct fire guns of 90mm and 105mm calibre. These weapons are interchangeable, enabling the core turret to be re-rolled or upgraded to meet customer requirements. Depending on its configuration, this turret can be mounted on wheeled or tracked chassis weighing as little as 20t in either a manned or unmanned configuration. Crew: 2

Cockerill CSE 90LP

The Cockerill CSE 90LP is a low-weight two-person turret featuring the proven Cockerill 90mm low-pressure gun, of which 2,500 units have been sold. The low weight of the turret permits it to be fitted to a wide range of wheeled and tracked armoured fighting vehicles. It incorporates a gunner's day sight as standard, with night vision – image intensifying or thermal imaging – as an option, as well as a laser range-finder and a ballistic computer. Weight: 2,100kg Crew: 2

Cockerill LCTS90 MP

The Cockerill LCTS90 MP is a light two-person turret equipped with a rifled Cockerill 90mm gun and a bustle-mounted autoloader. Capable of firing six different ammunition natures, including APFSDS-T, and HESH-T, the 90mm Mk 8 medium-pressure gun can engage a variety of targets, including heavy armour and concrete bunkers. A full digital architecture and a ballistic computer are fitted as standard. Crew: 2

JORDAN ADVANCED MACHINING COMPANY (JORDANAMCO)

Snake Head MKIII

At the May 2018 SOFEX exhibition, JordanAMCO unveiled the Snake Head Cupola MKIII, a one-man light turret fitted with optonics to enable target engagement by day and night. Crew: 1

Snake Head MKIIIA

At the May 2018 SOFEX exhibition, JordanAMCO unveiled the Snake Head Cupola MKIIIA, a further development of its Snake Head Cupola MKIII which provides improved protection for the gunner. Crew: 1

Snake Head MKVI

Introduced in 2018, the Snake Head MKVI Cupola is the newest member of JordanAMCO's light turret family. It is armed with two 50cal M2 heavy machine guns, with each provided with 200 rounds of ready-use ammunition. Although designed for use on tracked and wheeled AFVs, the turret can also be used in the static defence role. Crew: 1

KBP INSTRUMENT DESIGN BUREAU

B05Ya01 Berezhek

KBP Tula developed the B05Ya01 Berezhek turret (also referred to as a 'combat module') to provide an upgrade option for the legacy Soviet BMP-1 and BMP-2 tracked IFVs. By integrating new weaponry and sensors into the basic BMP-2 turret, the Berezhek enables the BMP-2 to engage targets more accurately and at longer ranges even at night or in conditions of poor visibility. The addition of launchers for four Kornet-E ATGMs also increases its lethality against more heavily armoured targets. Russia has contracted KBP Tula to fit the Berezhek turret as part of its BMP-2M upgrade programme and a considerable number have also been exported to Algeria. Weight: 3,250kg Crew: 2

Bakhcha

The Bakhcha is the latest version of the two-man turret originally developed for the BMP-3 tracked IFV, which entered Soviet Army service in 1987. It is armed with a 100mm 2A70 main gun, which is capable of firing the Arkan ATGM, a coaxial 30mm 2A72 cannon and a coaxial 7.62mm PKT machine gun. Weight: 3,980kg Crew: 2

Bereg

KBP developed the Bereg one-person turret (referred to as a 'combat module' in Russia) to provide an upgrade option for the Russian-designed BMD-series airborne IFV and similar vehicles. The turret weighs less than 1.8t, making it suitable for integration on smaller AFVs such as the BMD. The turret is armed with a 2A42 30mm automatic cannon and a coaxial 7.62mm PKT machine gun. Weight: 1,800kg Crew: 1

Mistral Albi is a lightweight 360° turret, optimised for the protection of armoured or mechanised units as well as convoys. (Photo: MBDA)



KONGSBERG DEFENCE & AEROSPACE

MCT-30/MCT-540/RT40

The stabilised MCT-30 medium-calibre uncrewed turret was developed by Kongsberg as a replacement for the conventional crewed turrets fitted to most armoured vehicles. It is typically armed with a 30mm cannon fed from two 75-round magazines, allowing the gunner to select different ammunition types, including armour piercing and air burst. An optional roof-mounted Protector-series RWS provides the commander with independent surveillance and lethal/non-lethal engagement capability and also enables a hunter/killer capability. Kongsberg rebranded the MCT-30 and MCT-540 turrets as the RT40 in late 2020. Weight: 1,800kg Crew: 1

LEONARDO ELECTRONICS

Hitfact 105-120mm

The Hitfact 105-120 mm is a three-person, power-operated turret armed with either a 105mm/52 cal or a 120mm/45 cal low-recoil force gun, intended for installation on light- or medium-weight tanks and wheeled or tracked tank destroyers. Both main guns fire NATO-standard ammunition. The 105mm barrel is rifled with a right-hand twist and the 120mm barrel is smoothbore. The barrel is autofretted. A bore evacuator for quick self-cleaning of the barrel and a thermal jacket are fitted. An upgraded variant of the turret, the Hitfact Mk II, carries the same armament as the earlier version, yet is of a lighter and more modular design. Weight: 5,800kg Crew: 3

Hitfist 25-30mm

The Hitfist 25-30mm is a two-person, power-operated turret designed for installation on wheeled or tracked IFVs. The main armament can be either an Oerlikon 25mm KBA or a Northrop Grumman 30/40mm MK44 Bushmaster automatic cannon, electrically controlled for elevation, traversing and firing operations. Ammunition feed is through belted rounds housed in two ammunition containers. Secondary armament consists of a 7.62mm coaxial machine gun (MG) and a pintle-mounted 7.62mm MG. Weight: 2,850kg Crew: 2

Hitfist OWS 30

The Hitfist OWS (Overhead Weapon Station) 30 is an unmanned turret designed for use on wheeled or tracked IFVs. The main armament consists of a stabilised Northrop Grumman 30/40mm MK44 Bushmaster or other 25mm or 30mm cannon. Secondary armament consists of a 7.62mm coaxial machine gun and two launchers for Spike, Kornet or Ingwe ATGMs. The gunner's digital fire control system includes a day colour TV camera, an IR Camera and a laser rangefinder. Weight: 1,650kg Crew: 2

MBDA

Mistral Albi

Mistral Albi is a lightweight 360° turret, optimised for the protection of armoured or mechanised units as well as convoys. It has been designed to carry out all the usual air defence missions such as point defence, local area defence and, more particularly, defence of

mobile units. Mounted on armoured vehicles, it also provides crews with an extra level of protection. Missile length: 1.86m Missile diameter: 90mm Missile weight: 19.7kg Speed of missile: 1,807kt Effective range: 6,500m Effective altitude: 9,800ft

NEXTER SYSTEMS

T40

Formerly known as the T40M (Manned) turret, the T40 is a two-man turret that is being developed by Nexter for integration on new tracked and wheeled AFVs, or as an upgrade for older platforms. Armed with the CTAI 40 mm Case Telescoped Armament System (CTAS), it will be able to engage targets with a variety of ammunition natures, including an air bursting munition. Mounted on a Nexter 8x8 VBCI IFV, the turret has been demonstrated to potential customers in the Middle East, who can modify the standard design with extra armour, ATGM launchers, a RWS and additional sensors to meet their requirements. A version of the turret with integrated ATGM launchers has also been selected by the French Army for its EBRC Jaguar 6x6 reconnaissance vehicle. Length: 575cm Width: 300cm Height: 150cm Weight: 3,800kg Crew: 2

OTOKAR

Bozok

The Bozok 12.7 MKT one-man manual closed turret is designed as the primary weapon for tracked or wheeled AFVs. It can be armed with a 7.62mm or 12.7mm machine gun or 40mm automatic grenade launcher. Weight: 770kg Crew: 1

RHEINMETALL LANDSYSTEME

Lance

The Lance Modular Turret System, designed to equip tracked and wheeled IFVs, was introduced by Rheinmetall in 2008. Lance is available either in a two-person or uncrewed Lance RC (Remote Control) configuration with numerous weapon and sensor options to meet customer requirements. An improved

The Bozok can be armed with a 7.62mm or 12.7mm machine gun or 40mm automatic grenade launcher. (Photo: Otokar)



The T40 is a two-man turret that is being developed by Nexter for integration on new tracked and wheeled AFVs, or as an upgrade for older platforms. (Photo: Nexter Systems)

version of the manned variant, the Lance 2.0, has been revealed as part of Rheinmetall's Lynx KF41 IFV programme. Weight: 3,300kg Crew: 2

VALHALLA

Asgard GS

The Asgard GS (Grab and Shoot) is the baseline model of the Asgard 127 one-person modular turret family introduced in 2016. It can be mounted on a wide variety of light and medium armed vehicles. Standard armament is the FN M2 HB 50cal heavy machine gun (HMG), which is provided with 250 rounds of ready-use ammunition, although the modular design enables customers to specify other weapons.

Asgard MRAP

The Asgard MRAP (Mine Resistant Ambush Protected) is a member of the Asgard 127 modular one-person turret family introduced in 2016. It is intended for installation on MRAP vehicles. It is armed with an FN M2 HB 50cal heavy machine gun (HMG) with 250 rounds of ready-use ammunition and a coaxial FN MAG 7.62mm medium machine gun (MMG) with 600 rounds. Weight: 700kg Crew: 1



EQUIPMENT

REMOTE WEAPON STATIONS

This section provides a guide to small-calibre remote weapon stations (RWS) – armed with 5.56mm, 7.62mm, 12.7mm and 14.5mm machine guns (MGs), and/or 40mm automatic grenade launchers (AGLs) – that are in production or development.

The specifications listed are intended to provide a handy reference source for the basic parameters that describe the performance of the RWS. Most data has been supplied by the manufacturers, who can give more detailed information on request.

Entries are listed alphabetically by company.

If you think your product should be listed, please contact the team at insight@shephardmedia.com to ensure it appears in the *Shephard Defence Insight* online database (shephardmedia.com/defenceinsight) and is included in the next handbook edition.

ABOVE: The Mk II remote weapon system, being test-fired aboard an Australian Army ASLAV vehicle. (Photo: Australian Army)

ARAB INTERNATIONAL OPTRONICS/ ESCRIBANO MECHANICAL & ENGINEERING

Eagle 1

The Eagle 1 RWS was developed by Arab International Optronics (AIO) in cooperation with Escribano Mechanical & Engineering (EM&E), with the aim of eventually producing up to 70% of the value of the system in Egypt. Able to be armed with either a machine gun or automatic grenade launcher, the Eagle 1 is designed to be mounted on Egyptian armoured vehicles. A naval variant, known as the Eagle 2, has also been developed by AIO. Weight: 215kg Crew: 1

ARES AEROSPACIAL E DEFESA

REMAX

Ares, a Brazilian subsidiary of Elbit, developed the REMAX (REparo de Metralhadora Automatizado X) RWS for the Brazilian Army's Iveco VBTP-MR Guarani project (see separate entry). The REMAX features dual-axis stabilisation and is equipped with day and thermal cameras and a laser rangefinder. No deck penetration is required to mount the REMAX. Weight: 217kg Crew: 1

ARQUUS

Hornet T1/T2/T3

The Hornet is an RWS designed to be fitted to the French Army's armoured fighting vehicles. It is available in four versions – the Hornet, the Hornet Lite, the Hornet S and the Hornet 30mm – which differ in their armament and sensor configuration. In French service, the standard Hornet is designated T1, while the Hornet Lite is known as the T2 and the Hornet S as T3. Height: 68cm Weight: 190kg Crew: 1

ASELSAN

Anti-tank MLS

The Anti-tank Missile Launch System (MLS) is an RWS developed by Aselsan to launch various types of ATGMs. Designed to be lightweight and compact, the system is suitable for integration on most armoured vehicles, including light 4x4 APCs. As a customisable design, it can be reconfigured to accommodate two, four or eight ready-to-fire missiles and can also mount a machine gun or 25mm automatic cannon for self-defence. Crew: 1

ASRLS

Anti-Submarine Rocket Launching System (ASRLS) is a stabilised, remotely-controlled, fully automated and modular firing platform that is designed to control penetrations to territory waters and main bases by denying enemy submarines. With its compact and lightweight structure, it can be integrated to various kinds of naval platforms as well as to ground facilities for valuable asset protection.

Korhan

The Korhan 35mm unmanned turret is manufactured by Aselsan. The main armament of the system is a 35mm cannon which can fire a number of ammunition types. Alongside this is a 7.62mm machine gun, an optional RWS and a host of Aselsan developed systems which

provide situational awareness and survivability. It was first revealed at IDEF 2017 and was seen installed to a prototype 8x8 armoured vehicle manufactured by the Turkish firm BMC in January 2021. Weight: 3,500kg

Nefer

Developed by Aselsan, Nefer is a remote-controlled stabilised weapon system that can be armed with 25 and 30 mm cannons. It is armoured to conform with STANAG 4569 Level 2 requirements and is capable of engaging targets while on the move. Height: 64cm Weight: 1,720kg Crew: 1

SARP

Aselsan's Stabilised Advanced Remote Weapon Platform (SARP) is designed as a primary or secondary weapon system for wheeled or tracked AFVs and can also be mounted on fixed installations. It is fitted to the new Otokar Altay MBT under development for Turkish Land Forces Command. Weight: 165kg Crew: 1

Smash

Smash is a remote-controlled naval gun system fitted with a 30mm gun integrated on a stabilised pedestal with independent EO Sight allowing surveillance without aiming the gun. It can be fed via two separate ammunition lines selected by the operator, using the remote operating panel. Weight: 1,250kg Crew: 1

STAMP 2

Aselsan's STAMP-2 is a remotely operated stabilised weapon station for small-calibre guns. Its configurations incorporate features such as remote operation, a built-in EO sensor system, day and night operation, automatic target tracking and stabilised turret and ballistic computation. Weight: 250kg Crew: 1

BAE SYSTEMS BOFORS

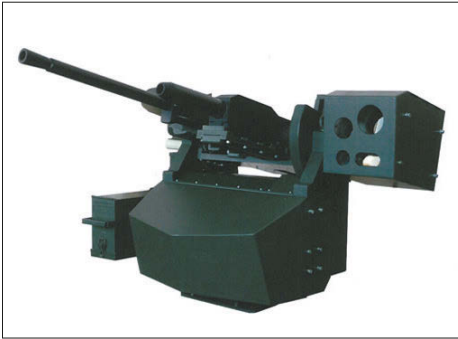
Lemur

Originally comprising a series of roof-mounted stabilised EO sights, the BAE Systems Bofors Lemur family has since expanded to incorporate armed RWS variants. Available in several versions, the system can be configured with different sensors and armed with a range of weapons to meet specific customer requirements for vehicle-based or naval applications. In addition to providing close-in defence, the sensors fitted to the Lemur enable it to function as a sight for other weapons on the same platform. Height: 85cm Weight: 180kg Crew: 1

BUREVESTNIK

6S21

Burevestnik produces the modular 6S21 RWS in three versions. Version 01 (V1) is the base model, with two subsequent variants – Versions 02 and 03 (V2, V3) – offering different weapons, ammunition and the option of reloading under armour. All versions can be equipped with either the CAM surveillance and sighting suite, which consists of a day TV camera and laser rangefinder, or the CAM1 that also offers an IR imaging capability. Weight: 230kg Crew: 1



The Adunok is capable of being mounted on stationary emplacements, AFVs, support vehicles, UGVs and coastal patrol boats. (Photo: Display Design Office)

AU-220M

The AU-220M unmanned turret, developed by TsNII Burevestnik, a subsidiary of Uralvagonzavod (UVZ), mounts a dual-feed 57mm automatic cannon and a PKTM 7.62mm coaxial machine gun. UVZ displayed a mock-up at IDEX 2015 and an actual turret was displayed at the September 2015 Russia Arms Expo mounted on a BMP 3 IFV. In addition to potential export customers, the AU-220M is being proposed as an option to arm Russia's BMP-3, Bumerang, Kurganets-25 and T-15 Armata IFV platforms. Crew: 2

DENEL LAND SYSTEMS

RCG30

The Mechatronics division of Denel Land Systems unveiled its RCG30 unmanned turret at the African Aerospace & Defence exhibition in September 2018. Armed with a Denel Land Systems 30x173mm GI-30 CamGun, the RCG30 is intended for export customers and is free of ITAR restrictions. It is being promoted to equip new or upgraded IFVs and reconnaissance vehicles in the 15t class. Width: 175cm Height: 93cm Weight: 2,000kg Crew: 1

DENEL VEHICLE SYSTEMS

Missile Stabilised Turret

The Missile Stabilised Turret (MST) is designed to provide armoured vehicles with a cost-effective means of engaging enemy tanks and hardened targets. With an overall weight of 420kg, the lightweight system is compact enough to be mounted on most armoured vehicles, including 4x4 patrol and reconnaissance platforms. Armed with four Ingwe missile launchers, it can be used to neutralise targets at distances from 200m up to 5,000m away. Weight: 420kg Crew: 1

SD-ROW

The Self Defence – Remotely Operated Weapon (SD-ROW) is a lightweight RWS designed for installation on soft-skin military vehicles and light armoured vehicles. Able to accommodate 5.56mm or 7.62mm machine guns of either Western or Soviet/Russian design, it can be operated by a single person using a simple HMI.

Although the weapon can be accurately aimed and fired from within the vehicle, it is also possible to rapidly dismount the weapon to deploy it elsewhere. Width: 50cm Height: 60cm Weight: 75kg Crew: 1

DISPLAY DESIGN OFFICE

Adunok

The Adunok is a stabilised RWS developed by the Belarusian Display Design Office. Capable of being mounted on stationary emplacements, AFVs, support vehicles, UGVs and coastal patrol boats, the Adunok can be armed with machine guns, automatic grenade launchers and antitank missiles. Length: 95.5cm Width: 86cm Height: 65cm Weight: 150kg Crew: 1

ELBIT SYSTEMS

ORCWS

The Overhead Remote Controlled Weapon Station (ORCWS) is an RWS family developed by Elbit for both ground and naval applications. Marketed in several configurations, it can be armed with a 7.62mm machine gun, a 12.7mm machine gun, a 30mm automatic grenade launcher or a 40mm automatic grenade launcher. A version with dual weapons is also available, and customers can specify the addition of optional features such as ballistic armour protection or ATGM launchers. A variant of the ORCWS known as the Dragon has been produced for the Israel Defense Forces (IDF), while many more examples have been exported to countries such as Austria, which refers to the system as the Scout. Weight: 150kg Crew: 1

ELECTRO OPTIC SYSTEMS (EOS)

R150

The R150 is a vehicle-mounted RWS that can be armed with a single machine gun. Weighing under 100kg, it is the lightest RWS offered by EOS. Due to its shared characteristics with other RWS in the EOS range, a vehicle-mounted R400 can be exchanged for an R150 in approximately 20min, with no change in characteristics for the operator. Weight: 75kg Crew: 1

R400S Mk2 Dual

The R400S Mk2 Dual is a variant of the R400S Mk2 which can be configured as a single or a dual RWS. In single weapon configuration, it can be armed with a 7.62mm medium machine gun, a 50cal heavy machine gun, a 40mm automatic grenade launcher or the Northrop Grumman M230LF lightweight 30mm cannon. In dual configuration, it is armed with an M230LF and a 7.62mm machine gun with the optional ability to mount a missile launcher. Length: 163.8cm Width: 82cm Height: 68.7cm Weight: 455kg Crew: 1

R400S-Mk2

The R400S-Mk2 is a stabilised RWS that can be fitted to wheeled or tracked vehicles. Developed to mount the Northrop Grumman Innovation Systems M230LF lightweight 30mm cannon, it is intended to provide lighter vehicles with a greater level of firepower than would previously have been feasible, although it can also be armed with machine guns and automatic grenade launchers. Since the production of the original R400

began in 2003, 1,200 R400 systems have been delivered to customers in Australia, Jordan, the Netherlands, Singapore, South Korea and the US, and at least a further 1,100 systems are on contract through 2022. Length: 163.8cm Width: 82cm Height: 68.7cm Weight: 455kg Crew: 1

R600/R600MC

The R600 is an RWS designed to accommodate heavier weapons than the original R400 RWS, the first RWS marketed by EOS. Intended for installation on armoured vehicles, the R600 can be armed with a single 25mm or 30mm cannon or, in its dual configuration, any combination of two of the following: a 7.62mm machine gun, 12.7mm heavy machine gun or 40mm automatic grenade launcher. An R600MC variant, which will be able to fire Javelin ATGMs, is also under development. Height: 71.2cm Weight: 341kg Crew: 1

R800

The R800 is a RWS developed by EOS for integration on heavy armoured vehicle platforms. It is designed to offer the capabilities of a medium calibre turret, yet also maintain the size, weight and cost of a RWS. Modular and network-capable by design, it can accommodate a wide variety of weapons systems including 30mm or 40mm cannons and ATGM launchers. Length: 343cm Width: 140cm Height: 100cm Weight: 800kg Crew: 1

T2000

The T2000 is a medium-calibre turret that will be produced in Australia for export and potential applications with the Australian Defence Force. Available in both crewed and uncrewed configurations, this modular turret can accommodate a range of different armaments, armour packages and sensors to meet different customer requirements. It is being offered for three different tenders, including the Australian Land 400 Phase 3 programme. Weight: 6,000kg Crew: 2

ESCRIBANO MECHANICAL & ENGINEERING

Aspis

The Aspis lightweight RWS is designed for use on land and naval platforms. Unveiled by Escribano Mechanical & Engineering in September 2020, it leverages technology developed for the company's larger Guardian and Sentinel RWS systems. Weighing 90kg without its weapon, the Aspis is capable of being armed with a 7.62mm machine gun and is equipped with a two-axis stabilised sight. Length: 122cm Width: 98.3cm Height: 78.2cm Weight: 90kg Crew: 1

Guardian 2.0

The Guardian 2.0 RWS is an upgraded version of Escribano's Guardian RWS in service with the Spanish Army, which offers improved sensors and better stabilisation. It can be armed with weapons such as a 7.62mm medium or a 50cal heavy machine gun. The Guardian 2.0 is being evaluated by the Spanish Army to equip a portion of its new 8x8 VCR (Vehículo Sobre Ruedas) armoured vehicle fleet with a decision expected in 2019. Weight: 180kg Crew: 1

Guardian 30

The Guardian 30 (or RAAD 30) is a modular RWS that has been specifically designed by Escribano Mechanical & Engineering for the Spanish Army's VCR 8x8 programme. Sitting on a gyro-stabilised double-axis platform, the turret's main armament is an Mk44S 30mm automatic cannon with a coaxial 7.62mm machine gun. The Spanish MoD selected the Guardian 30 for its VCR 8x8 armoured vehicle in June 2021. Escribano has also stated that customers from the Middle East and North Africa are interested in the turret. Weight: 2,500kg

ESL ADVANCED INFORMATION TECHNOLOGY

WS4 Panther

The WS4 Panther RWS can be equipped with a 7.62mm medium machine gun, a 50cal heavy machine gun or a 40mm automatic grenade launcher. It can be fitted to wheeled and tracked light armoured vehicles. It was selected by the Austrian Army as its standard RWS. Crew: 1

WS4 Panther Duo

The WS4 Panther Duo RWS is a further development of the WS4 single-weapon RWS. It is armed with a 40mm automatic grenade launcher and a 7.62mm medium machine gun. It can be fitted to wheeled and tracked light armoured vehicles. Crew: 1

EVPU

Gladius 12

The Gladius 12 is an RWS designed to be mounted on light armoured vehicles. As a modular design, the turret can be armed with either a 40mm automatic grenade launcher or a machine gun of 7.62 or 12.7mm calibre. Likewise, the sighting system can be configured according to customer requirements, while optional additional armoured plates and smoke dischargers can also be installed. Length: 139.5cm Width: 139.5cm Height: 64.5cm Weight: 200kg Crew: 1

Gladius Dual

The Gladius Dual is an RWS designed to be mounted on light armoured vehicles. Typically, the turret is armed with both a 12.7mm and a 7.62mm machine gun chambered for either NATO or Russian ammunition, although the 12.7mm machine gun can be exchanged for a 40mm automatic grenade launcher. As a modular design, the sighting system can be configured according to customer requirements, while optional additional armoured plates and smoke dischargers can also be installed. Length: 163.9cm Width: 79.4cm Height: 114.9cm Weight: 218kg Crew: 1

Turra 30

The Turra 30 is a remote-controlled turret designed for integration on both wheeled and tracked armoured vehicles. Armed with a 30mm cannon, a 7.62 or 12.7mm coaxial machine gun and two ATGMs, the Turra 30 can engage several types of targets, ranging from infantry to armoured vehicles and low-flying aircraft. Following demonstrations of the turret mounted on various platforms, the Turra 30 was selected for integration on

the Slovakian Army's Patria AMVxp-derived BOV 8x8 IFV and its BPsV1 armoured reconnaissance vehicle. Length: 405.6cm Width: 202.1cm Height: 76.5cm Weight: 1,540kg Crew: 2

ZSRD07

Introduced in 2008, the ZSRD07 is the first RWS developed by EVPU of Slovakia. Designed to accommodate a single 7.62mm machine gun, a sensor pod and smoke dischargers, it is intended to provide self-defence for light armoured vehicles. Although the system has enjoyed some limited sales to Slovakia and the Czech Republic, it has been superseded by the new Gladius 12 RWS that can mount a wider range of weapons. Length: 113cm Width: 104.6cm Height: 62.4cm Weight: 186kg Crew: 1

FN HERSTAL

deFNder Light

The deFNder Light is an RWS intended for installation on light payload vehicles, static platforms or UGVs. Capable of integrating all FN machine guns up to 7.62mm calibre, this RWS is optimised for lighter platforms that do not have the capacity to mount the heavier deFNder Medium RWS. The deFNder Light is notable for its extreme range of elevation from -60° to +80° which enables it to engage targets in mountainous areas and urban environments. It comes standard with gyroscopic stabilisation and 250-ammunition box capacity. Various optional features, such as target tracking, protective cover, links and cases collector and ballistic protection, are available. Height: 53cm Weight: 100kg Crew: 1

deFNder Medium

The deFNder Medium is a low-profile RWS designed for installation on static platforms or light, medium and heavy armoured vehicles and UGVs. Capable of integrating heavier weapons than the deFNder light RWS, it can be armed with a 5.56mm, 7.62mm or 12.7mm machine gun, including FN's .50 cal FN M3R, and can integrate a 40mm automatic grenade launcher. It comes standard with gyroscopic stabilisation and 300-ammunition box capacity. Various optional features, such as ballistic protection, stabilisation and slew-to-cue sensors, can be integrated into the system. The RWS is also compatible with Battle Management Systems. Height: 63cm Weight: 200kg Crew: 1

FNSS SAVUNMA SISTEMLERİ A.Ş.

Armoured Remote Weapon System

FNSS Armoured Remote Weapon System (ARWS) is a remotely controlled stabilised weapon system for machine guns and automatic grenade launchers. It can be mounted on various types of vehicles including tactical vehicles, wheeled and tracked infantry fighting vehicles, armoured trucks and main battle tanks.

Saber RCT

Produced by Turkish firm FNSS, the Saber is a Remote Control Turret system unveiled in 2021. Intended to replace crewed turrets, it can be retrofitted onto AFVs already in service without them undergoing significant modifications, according to the manufacturer. FNSS suggests that it is ideal for engaging other armoured

vehicles or for providing fire support for friendly infantry. Developed as an independent, private venture by FNSS, it remains in development and testing, with no confirmed orders having been placed. Width: 167cm Height: 68.5cm Weight: 1,450kg

Sancak RWS

A development of FNSS's earlier RWS system, the Sancak was developed for the Turkish Armed Forces. Based on experience with earlier RWS systems, one of the main improvements of the Sancak over previous systems produced by FNSS is its high level of ballistic protection, thus enabling it to operate under much more arduous conditions. It is designed to be able to conduct a range of tasks, and as such is fitted with a range of sensors as factory standard. With regards to weapons, it can be fitted with three different weapons types depending on the operator's needs and preferences. It is now in service with Turkey and one other country in the Middle East. Width: 127cm Height: 86cm Weight: 434kg

Teber-30/35 RT

Produced by Turkish company FNSS Defence Systems, the Teber-30/35 is a remotely operated medium-calibre turret with both the gunner and the commander able to control all functions of the turret. It can be equipped with either an Mk44 30mm/40mm dual-feed automatic cannon with 250 ready-to-fire rounds and a maximum cyclic rate of fire 200 rounds/min or a 35mm/50mm dual-feed automatic cannon with 100 ready-to-fire rounds and a maximum cyclic rate of fire 200 rounds/min. First released in 2021, the main intended customers are the Turkish Land Forces, as part of their New Generation Armoured Combat Vehicle Programme. Length: 246cm Width: 259cm Height: 93cm Weight: 3,000kg Crew: 2

Çaka

The Çaka RWS is optimised for use in marine environments. Designed for the Turkish Navy's Amphibious Assault Vehicle (ZAHAM), it can also be integrated on other wheeled and tracked platforms, as well as UGVs and naval vessels. It is armed with a 40mm Mk19 automatic grenade launcher and a 12.7mm M2 heavy machine gun. Width: 140cm Height: 96cm Weight: 700kg Crew: 1

GENERAL ROBOTICS

Pitbull

General Robotics developed the lightweight Pitbull family of remote weapons station for use on aerial, land and naval crewed or uncrewed platforms. Armed with a single 5.56mm light or 7.62mm medium machine gun, the system can engage infantry and low-flying UAS thanks to embedded anti-drone software. In addition to the standard system, General Robotics also markets the Pitbull Anti-Drone (AD) and Pitbull Non-Lethal (NL) variants. Length: 58cm Width: 70cm Height: 51cm Weight: 100kg Crew: 1

HANWHA DEFENSE

D-RWS

The Dual-RWS (D-RWS) is designed to be installed on the Republic of Korea Marine Corps' Korean Amphibious Assault Vehicle fleet. Weighing approximately 350kg, it

is armed with a 12.7mm K6 heavy machine gun and a K4 40mm automatic grenade launcher. Its sensor suite can detect targets up to 4km away and identify them at ranges of up to 2km. Weight: 350kg Crew: 1

M-RWS

The Multipurpose-RWS (M-RWS) was developed by Hanwha Defense to equip armoured vehicles and self-propelled artillery. Believed to weigh 130kg, the system can mount either a 5.56mm K3 machine gun, a K4 40mm automatic grenade launcher or a K6 12.7mm heavy machine gun. Weight: 130kg Crew: 1

HSW- HUTA STALOWA WOLA

ZSSW-30

The ZSSW-30 is an unmanned turret developed by a consortium of Huta Stalowa Wola (HSW) and WB Electronics. Armed with a 30mm cannon, 7.62mm coaxial machine gun and a launcher for two Spike LR2 ATGMs, it is designed to offer greater lethality, particularly against armoured targets, than the Leonardo HitFist-30P turret currently mounted on the Polish Army's Rosomak 8x8 IFV fleet. Crew: 2

JADARA EQUIPMENT AND DEFENCE SYSTEMS

Quad Terminator

The Quad Terminator is an RWS designed and manufactured in Jordan. Armed with four Terminator missile launchers and a 7.62mm machine gun, it can be used to engage infantry and armoured targets. Weighing 230kg without missiles, the system is light enough to be mounted on most armoured vehicles, including those based on modified COTS chassis. Length: 65cm Width: 70cm Height: 150cm Weight: 230kg

RPG-32 Nash-Shab Quad

Jadara Equipment & Defence Systems produces the RPG-32 in Jordan under the designation Nash-Shab

Unveiled by John Cockerill Defence at IDEX 2021, the Cockerill 1030 is an uncrewed turret that can be armed with a 30x113mm chain gun and a 7.62mm coaxial machine gun. (Photo: John Cockerill Defence)



(Archer). In 2016, it introduced a weapon system consisting of four of these launchers that can be remotely operated from up to 300m away. Known as the Quad, this is available in two variants: the Quad-1 mounted on a tripod and the Quad-2 for mounting on armoured vehicles. Length: 130cm Width: 130cm Height: 130cm Weight: 110kg Crew: 1

JOHN COCKERILL DEFENSE

CLWS

Unveiled at IDEX 2021, the Cockerill Light Weapon Station (CLWS) is designed to offer a high level of firepower in a compact and lightweight RWS. It is a modular, multi-mission system with a turret ring of 600mm able to accommodate either a 25mm cannon, 30x113mm chain gun or 12.7mm heavy machine gun, as well as secondary armaments such as a 7.62mm coaxial machine gun, ATGM launcher or guided rocket launcher. In order to maximise the protection of the crew, the system can be reloaded from under the armour. Length: 115cm Width: 125cm Height: 60cm Weight: 600kg Crew: 2

Cockerill 1030

Unveiled by John Cockerill Defence (JCD) at IDEX 2021, the Cockerill 1030 is an uncrewed turret that can be armed with a 30x113mm chain gun and a 7.62mm coaxial machine gun. With a modular design and open architecture, the turret can be modified into a number of different configurations, including a standard, robotic, heavily armoured or lightweight version. It can also host a suite of third-party systems, such as ATGMs, rockets, laser warning systems or smoke dischargers. Weight: 1,500kg Crew: 2

CPWS

Building on the success of the Cockerill Protected Weapon Station (CPWS) 25-30, John Cockerill Defence introduced a new version of the CPWS at the June 2018 Eurosatory defence exhibition. The lightweight unmanned turret can be integrated on 4x4, 6x6, 8x8 and tracked armoured fighting vehicles and can be armed with either a 25x137mm cannon or a 30x113mm chain gun, and a 7.62mm coaxial machine gun. It has an adjustable hatch, allowing the user to adopt different configurations depending on the mission profile and reload under protection. As a modular design with digital electronic architecture, it can be equipped with a wide variety of sighting systems and extra armour protection. Crew: 1

KBP INSTRUMENT DESIGN BUREAU

Bumerang-BM

The Bumerang-BM is an unmanned turret designed for the latest generation of Russian armoured vehicles such as the B-11 Kurganets-25 IFV, the K-17 Bumerang IFV and the T-15 Armata HIFV. The Bumerang-BM can be armed with a 30mm 2A42 cannon, a 7.62mm coaxial machine gun and four Kornet-EM ATGM launchers. Although the Bumerang-BM is still displayed on the K-17 Bumerang 8x8 IFV, it appears to have been replaced by the Epokha and Kinzhal turrets on the Kurganets-25 and T-15 respectively. Crew: 2

Epokha

Unveiled in 2017, the Epokha (Epoch) is an uncrewed turret that can be mounted on legacy and next-generation Russian IFVs. Heavily armed, the Epokha sports a 57mm low-velocity LShO-57 cannon, a 7.62mm coaxial machine gun, two pods of two Kornet-EM ATGMs and a launcher for eight Bulat guided missiles. Separate sights are provided for the gunner and commander. The Epokha can be fitted to the BMP-2 and BMP-3 IFVs and also appears to have replaced the Bumerang-BM unmanned turret originally fitted to the new B-11 Kurganets-25 IFV. Crew: 2

KONGSBERG DEFENCE & AEROSPACE

M151 Protector (RS4)

Originally developed in 1997, the Protector family of remote weapons stations is best known for its extensive service with the US Army, which adopted the first variant of the Protector as the M151 for use on its fleet of Stryker 8x8 IFVs. It has subsequently become one of the most prolific RWS on the market, having accumulated more than 20 million hours of operation during its service with at least 15 militaries. Capable of mounting several types of weapons and sensors, the M151 can be configured to meet different customer requirements and is suitable for integration on a wide range of wheeled and tracked armoured vehicles. Kongsberg rebranded the M151 and M153 Protector family of RWS as the RS4 in late 2020. Height: 74.9cm Weight: 229kg Crew: 1

M153 Protector (CROWS II/RS4)

The M153 Protector leverages and improves upon the technology developed for the M151 Protector RWS. Like its predecessor, it is capable of accommodating a wide range of weapons and sensors to meet different customer requirements, but has a significantly enlarged ammunition capacity and utilises lighter components made of composite materials. It was selected to meet the US Army's Common Remotely Operated Weapon Station (CROWS) II programme in August 2007, and since then, more than 11,000 have been built for the US Army alone. Kongsberg rebranded the Kongsberg M151 and M153 Protector RWS as the RS4 in late 2020. Height: 76.2cm Weight: 172kg Crew: 1

Protector Dual RWS

The Protector Dual RWS is a variant of Kongsberg's Protector RWS family that is capable of mounting two weapons. It was chosen by the Canadian Army in 2012 for integration on its new Textron Tactical Armoured Patrol Vehicle (TAPV). In Canadian service, the Dual RWS will typically be armed with an M2 50cal heavy machine gun or Heckler & Koch 40mm GMG as the primary weapon and a 5.56mm or 7.62mm machine gun as a secondary weapon. Height: 189kg Crew: 1

Protector Lite

The Protector Lite is a lightened variant of the original M151 and M153 Protector series of RWS with which it shares more than 80% commonality. Designed for installation on light armoured vehicles, it lacks the recoil-dampening mechanisms installed on its heavier counterparts and is therefore intended to mount relatively low-recoil weapons such as light or general-purpose machine guns. Height: 61cm Weight: 74kg Crew: 1

Protector Super Lite

The Protector Super Lite is a man-portable lightweight RWS that can be installed on wheeled or tracked armoured vehicles, as well as tripods and stationary platforms. Despite being the lightest variant of the Protector family of RWS, it can still accommodate a 5.56mm or 7.62mm machine gun and the sensors used to detect and engage targets. Unlike many RWS, the gunner can take manual control of the Protector Super Lite and use it in a similar manner as a conventional machine gun, although it is primarily intended to be operated from within the armoured hull of the host vehicle. Height: 46cm Weight: 37kg Crew: 1

RT60

The RT60 is the largest, heaviest member of Kongsberg's family of Remote Turret (RT) systems, all of which are based on a common technology. Designed for integration on wheeled or tracked IFVs, it can accommodate a 30mm, 40mm or 50mm cannon, as well as ATGMs. Flexible architecture enables customers to easily integrate their own subsystems into the turret, such as an APS, shot detection system or laser warning system. Crew: 2

KONGSBERG PROTECH SYSTEMS

LW30/RS6

The LW30 (since rebranded RS6) is part of the Protector RWS family developed by Kongsberg. Designed to carry a heavier armament than earlier Protector systems, it can be armed with a low-recoil 30mm cannon, coaxial 7.62mm machine gun and either ATGM or SAM launchers. As with other members of the Protector family, it has a modular design to facilitate easier integration of sensors and can be networked together with other Protector RWS. Height: 76.5cm Weight: 342kg Crew: 1

KRAUSS-MAFFEI WEGMANN

FLW 100

The FLW 100 was developed to meet a German Army requirement for a light RWS. Designed alongside the heavier FLW 200 RWS, it shares many of the same features with this system, including a modular architecture that enables the user to quickly swap weapons while in the field. Armed with either a 5.56mm machine gun or a 7.62mm machine gun, more than 600 have been mounted on light tactical and patrol vehicles in service with the German Army. Height: 74kg Crew: 1

FLW 200

The FLW 200 was developed by KMW to meet a German Army requirement for a heavy RWS. Designed with a modular architecture, it is capable of being armed with either a 7.62mm machine gun, a 12.7mm heavy machine gun or a 40mm automatic grenade launcher. Since it entered service, more than 530 FLW 200 RWS have been delivered to the German Army for installation on its heavier platforms such as the Boxer and Fuchs 1 8x8s, while KMW has also developed a heavier version for 20mm cannons known as the FLW 200+. Height: 135kg Crew: 1

FLW 200+

The FLW 200+ is a further development of the FLW 200 RWS. Whereas the standard FLW 200 can be armed with a 7.62mm machine gun, a 12.7mm heavy machine gun or a 40mm automatic grenade launcher, the FLW 200+ introduces strengthened components that enable it to mount larger-calibre weapons, such as the Rheinmetall 20 mm Rh202 dual-feed cannon. Weight: 500kg Crew: 1

LEONARDO ELECTRONICS**Hitrole Light**

HITROLE Light is a lightweight RWS that can be fitted with 7.62mm machine guns or 12.7mm machine guns or a 40mm automatic grenade launcher. The flexibility provided by different calibres offers the capability to perform multi-role tasks like surveillance, patrolling in an urban environment, border security, counter-sniper and asymmetric missions. Machine Gunner can operate the weapon system and observe day and night from inside the vehicle in a protected position. The weapons are primarily stabilized on two axis, and a universal ammunition box for the different calibres is fitted on the mount. Length: 129.1cm Width: 99.9cm Height: 69.7cm Weight: 150kg Crew: 1

MBDA**Dragonfire**

Dragonfire is a new laser weapon system built for the UK MoD, receiving £30 million of funding in early 2017. The design of the gun was first unveiled at DSEI 2017 in London. For the development work, MBDA has grouped expertise from Leonardo, QinetiQ, MBDA, Arke, BAE Systems, Marshall and GKN. The development programme is called Laser Directed Energy Weapon (LDEW) Capability Demonstrator Programme (CDP).

MOOG INC**RlWP**

The Reconfigurable Integrated-weapons Platform (RlWP) is a modular remote weapons station designed by Moog to counter a wide spectrum of threats ranging from enemy infantry to armoured vehicles and helicopters. Able to be mounted on most tactical vehicles, the RlWP can be equipped with over 125 different weapon configurations, including several combinations of machine guns, automatic grenade launchers, cannons, ATGMs, surface-to-air missiles, lasers and sensors. It also forms part of Leonardo DRS' integrated counter-UAS suite developed for integration on the US Army's 8x8 Stryker A1 armoured vehicles.

NEXTER SYSTEMS**ARX 20**

The ARX 20 was developed by Nexter to meet demand for a vehicle-mounted RWS that offers more firepower than an RWS armed with a 12.7mm machine gun, but is lighter than an RWS or unmanned turret armed with a 30mm cannon. Sporting a 20mm M621 cannon and a 7.62mm coaxial machine gun, the ARX 20 offers greater lethality than a 12.7mm heavy machine gun,

while being less expensive to operate than a 30mm weapon. With an overall basic weight of 270kg, this relatively compact system can be mounted on most wheeled and tracked light armoured vehicles without penetrating the roof armour. Weight: 270kg Crew: 1

ARX 25

Introduced in 2016, the ARX 25 is the second member of Nexter's family of ARX vehicle-mounted RWS systems. Like the other members of the ARX series, it is intended to provide more firepower than an RWS armed with a heavy machine gun, while also being cheaper to operate than an RWS or unmanned turret armed with a 30mm automatic cannon. Light enough to be mounted on most wheeled and tracked armoured vehicles, the ARX 25 sports a 25mm automatic cannon and a coaxial 7.62mm machine gun. Length: 280cm Width: 90cm Height: 110cm Weight: 900kg Crew: 1

ARX 25 Low Profile

Unveiled in 2017, the ARX 25 Low Profile is an evolution of the ARX 25 RWS introduced by Nexter in 2016. It was developed to meet a French SF requirement for a lightweight RWS that can be mounted on its PLFS 4x4 vehicle and armed with a weapon system able to outrange the 14.5mm machine guns and 23mm cannons commonly employed by terrorist organisations in the Middle East and North Africa. Compared to the standard ARX 25, the Low Profile variant is 400kg lighter and considerably shorter in order to reduce its silhouette and to allow the PLFS to retain its mobility, but several compromises are necessary to achieve these reductions. Weight: 500kg Crew: 1

Unmanned T40

Nexter is developing an unmanned variant of its T40 two-man turret to meet the growing demand for these types of systems. Like the standard T40, the unmanned variant is designed to be armed with the CTAI 40mm Case Telescoped Armament System (CTAS) automatic cannon and has an open architecture to allow for the addition of extra armour, ATGM launchers, an RWS and additional sensors to meet different customer requirements. However, due to its reduced weight, smaller size and lack of a turret basket, the unmanned variant preserves more of the vehicle's internal volume and payload capacity. Length: 493cm Width: 174cm Height: 123cm Weight: 2,900kg Crew: 2

NORINCO**UW1**

The Norinco UW1 is a fully stabilised RWS that can be armed with a machine gun or automatic grenade launcher. It can be installed on both tracked and wheeled platforms for close-in defence, or it can be used as a standalone stationary system. Length: 100cm Width: 100cm Height: 70cm Weight: 270kg Crew: 1

UW5

The UW5 is an uncrewed turret developed by Norinco for integration on AFVs. During its debut at the Zhuhai Airshow in September 2021, it was seen armed with a

30mm cannon, 7,62mm coaxial machine gun and a pop-up launcher for two ATGMs, as well as a hard-kill APS. Crew: 2

NPO ELECTROMASHINA

5ETs16U Okhotnik

The 5ETs16U Okhotnik ('Hunter') RWS was developed by NPO Electromashina (a subsidiary of UVZ). Designed for installation on armoured vehicles, static mounts and naval platforms, it is armed with a 6P49 Kord 12.7mm heavy machine gun. It entered production for the Russian Army in August 2021. Height: 67cm Weight: 210kg Crew: 1

OTOKAR

Başok

The Başok was designed as a primary or secondary weapon for tracked and wheeled AFVs. Weight: 85kg Crew: 1

Keskin RCWS

The Keskin is a lightweight RWS designed by Otokar for installation on armoured vehicles. As a modular system, it can be armed with either a 7.62mm, 12.7mm or 14.5mm machine gun or a 40mm automatic grenade launcher. Other aspects of the system, such as its sensors, can be customised to meet different customer requirements. Weight: 255kg Crew: 1

Üçok

Otokar developed the Üçok Remote Control Weapon Station to serve as the primary or secondary weapon system on wheeled or tracked AFVs. Weight: 261kg Crew: 1

PRECISION REMOTES

Trap T360

Weighing in at approximately 32kg, the Trap T360 is one of the lightest systems available on the RWS market. Suitable for installation on armoured vehicles, UGVs, helicopters, naval vessels and fixed installations, the Trap T360 is light enough that it can be quickly dismounted and transferred to another platform or tripod mount. Although the first iterations of the system were only capable of accommodating a 5.56mm machine gun, a 7.62mm machine gun or a semi-automatic rifle up to 12.7mm calibre, the latest versions of the Trap T360 are also able to mount an M2HB 12.7mm heavy machine gun. Weight: 32kg Crew: 1

PRO OPTICA

Anubis

Also known as the RCWS-RO-M, the Anubis is an RWS designed for mounting on armoured vehicles. It can be armed with either a 7.62mm or 12.7mm machine gun and is fitted with stabilisation as standard, allowing it to engage targets while on the move. Compared to its predecessor, the RCWS-RO, the Anubis is also 30kg lighter despite offering greater capability. Weight: 135kg Crew: 1



The Keskin is a lightweight RWS designed by Otokar for installation on armoured vehicles. (Photo: Otokar)

RAFAEL ADVANCED DEFENSE SYSTEMS

Samson Dual

The Samson Dual is intended to bridge the gap between the larger, heavier Samson unmanned turrets and the lighter Samson Mini, which is incapable of mounting medium-calibre weapons. As its name suggests, the Samson Dual is able to mount multiple weapons ranging from 5.56mm machine guns up to 30mm cannons and 40mm automatic grenade launchers, as well as optional ATGM launchers. This provides lighter wheeled and tracked armoured vehicles with a higher degree of lethality by enabling them to engage a wider selection of targets than would be possible with a conventional RWS. Weight: 300kg Crew: 1

Samson Mini

The Samson Mini is one of the lightest members of the Samson RWS family. It is a dual-axis, gyro stabilised RWS designed for use on vehicles, fast attack boats and other platforms. The single-weapon RWS accommodates 5.56mm, 7.62mm, 12.7mm and 14.5mm machine guns, 40mm automatic grenade launchers and ATGMs. Weight: 200kg Crew: 1

Samson Mk II/Samson 30

The Samson Mk II (now referred to as the Samson 30) was unveiled in 2012 as a replacement for the original Samson uncrewed turret. Like its predecessor, it can be armed with an automatic cannon ranging from 23mm to 40mm in calibre, as well as a coaxial machine gun and two launchers for Spike ATGMs. However, the Samson Mk II introduces improvements to increase the lethality and survivability of the system, which include optional armour protection, the ability to reload the weapons under armour, a more advanced fire control system and greater elevation for the main armament. Weight: 3,500kg Crew: 2

REUTECH

Land Rogue

The Land Rogue is an RWS developed by Reutech for installation on armoured vehicles. Capable of being armed with a 7.62mm machine gun, a 12.7mm heavy machine gun or a 40mm automatic grenade

launcher, it is fully stabilised to allow targets to be engaged while the vehicle is stationary or on the move. Since the introduction of the Land Rogue, Reutech has unveiled several variants of the system, including a naval variant known as Sea Rogue. Weight: 120kg Crew: 1

RHEINMETALL CANADA INC

Fieldranger 20

The Fieldranger 20 stabilised 20mm RWS can be mounted on AFVs, SF vehicles and fixed installations. Derived from Rheinmetall's Searanger 20 naval weapon system, the Fieldranger 20 is intended to bridge the gap between 50cal and 30mm-armed RWS. It is armed with the Rheinmetall Oerlikon 20x128mm KAE cannon which can effectively engage targets up to 2,000m away. A single-belt ammunition feed system contains up to 200 ready rounds. Length: 268cm Width: 103.6cm Height: 79.8cm Weight: 475kg Crew: 1

Fieldranger Dual

The Fieldranger Dual is one of the larger systems in the Rheinmetall Fieldranger series of RWS. Designed to carry two weapons simultaneously, the Fieldranger Dual is intended for use on medium and heavy vehicle platforms. Having access to two types of ammunition means that the weapon station is more versatile and more lethal than comparable single-weapon RWS. Length: 120.4cm Width: 137.3cm Height: 88cm Weight: 260kg Crew: 1

Fieldranger Light

The Fieldranger Light is the smallest and lightest system in the Rheinmetall Fieldranger series of RWS. It is primarily designed to be installed on the roof of light vehicle platforms where payload limitations preclude the use of heavier modules. Length: 104.3cm Width: 85.4cm Height: 52.1cm Weight: 75kg Crew: 1

Fieldranger Multi

Part of Rheinmetall's Fieldranger range of RCWS, the Fieldranger Multi was unveiled at Eurosatory 2018. Designed to mount heavier support weapons than the Fieldranger Light, it can be armed with a 12.7mm machine gun or a 30mm or 40mm automatic grenade launcher. Although primarily intended for integration on tactical wheeled or tracked military vehicles, it can also be used as a static turret for protection of infrastructure or border control. Length: 132.1cm Width: 137cm Height: 83.5cm Weight: 200kg

RHEINMETALL

MSSA

The Main Sensor Slaved Armament (MSSA) is an RWS developed as a secondary armament option for Rheinmetall's Lance family of armoured vehicle turrets. Designed to mount on top of the Stabilised Electro-Optical Sighting System-2P (SEOSS-2P) commander's panoramic sight, it allows for hunter-killer engagements. It can be armed with either a 7.62mm or 12.7mm machine gun or a 40mm automatic grenade launcher. Crew: 1



The Fieldranger Light is the smallest and lightest system in the Rheinmetall Fieldranger series of RWS. (Photo: Rheinmetall Canada)

SAAB

Trackfire

The Trackfire is a low-profile RWS that is suitable for installation on wheeled and tracked armoured vehicles, as well as naval boats. As a modular system, it can be armed with both NATO- and Russian-standard weapons ranging from a 5.56mm, 7.62mm or 12.7mm machine gun up to a 40mm automatic grenade launcher. Unlike many other RWS, the Trackfire has a Stabilised Independent Line of Sight (SILOS) decoupled sensor unit that can move independently from the weapons in order to hasten target acquisition. Although originally developed to meet a Swedish Army requirement, the Trackfire has been more successful as a naval weapon. Height: 66cm Weight: 260kg Crew: 1

SAFRAN ELECTRONICS & DEFENSE

WASP

The Weapon under Armour for Self-Protection (WASP) was jointly developed by Panhard (now Arquus) and Sagem (now Safran) to meet a potential French Army requirement for a lightweight RWS suitable for arming light tactical vehicles and logistics vehicles. Armed with either a 5.56mm or 7.62mm machine gun, it is primarily intended for self-defence. With an overall weight of approximately 60kg (including the weapon and 200 rounds), it can be accommodated by most military vehicles and was adopted by the French Army for its VBL and PVP tactical vehicles. Height: 58cm Weight: 60kg Crew: 1

ST ENGINEERING LAND SYSTEMS

Adder DM

The Adder DM series is part of the wider Adder family of remote weapons station and unmanned turrets developed by ST Engineering of Singapore for installation on armoured vehicles. Three versions of the Adder DM are marketed: the DM 762 armed with a 7.62mm machine gun, the DM 50 armed with a 12.7mm machine gun and the DM 40/50 armed with

both a 40mm automatic grenade launcher and a 12.7mm machine gun. Weight: 350kg Crew: 1

Adder M30

Part of the Adder family of RWS, the M30 is an unmanned turret designed to mount medium-calibre weapons. Equipped with a fully stabilised mount, the system can be used to accurately engage targets while stationary or on the move. A version armed with the 30mm MK44 Bushmaster II cannon and a coaxial 7.62mm machine gun was trialled on the Singapore Army's Next-Generation Armoured Fighting Vehicle (NGAFV) prototype, but was replaced by the Rafael Samson 30 RWS for series production vehicles. Weight: 2,000kg Crew: 2

UKROBORONPROM

BM-3 Shturm

The BM-3 Shturm is a remote-controlled overhead weapon station (OWS) that is primarily designed for installation on light armoured vehicles, although it can also be mounted on small naval vessels. It is armed with a 30mm ZTM-1 automatic cannon, a 7.62mm PKT machine gun, a 30mm AG-117 automatic grenade launcher and two Baryer (Barrier) ATGM launchers, allowing it to engage a wide range of ground and aerial targets. Numerous examples of this turret have been sold to the Ukrainian Army and export customers for integration on the BTR-3 series of IFVs, and it has also been demonstrated on other armoured vehicles. Width: 186.1cm Height: 56.9cm Weight: 1,300kg Crew: 1

KBA-105 Shkval

The KBA-105 Shkval is an RWS designed for installation on armoured vehicles such as the BMP-1, the BTR-4 and BTR-3U IFVs. It is armed with a KBA-2/ZTM-1 30mm automatic cannon, a PKT 7.62mm coaxial machine gun, an AGS-17 30mm automatic grenade launcher and ATGM launchers. A large number of Shkval turrets were expected to be ordered for the Ukrainian Army's upgraded BMP-1U programme, but the upgrade process suffered delays and only 12 BMP-1Us were completed by the end of 2012. Nevertheless, the Shkval has been exported to several foreign militaries for integration on BMP-1U and MT-LBMSH armoured vehicles. Weight: 1,900kg Crew: 1

VALHALLA

Asgard RCT

The Asgard RCT (Remote Control Turret) is the unmanned member of the Asgard 127 modular one-person turret family introduced in 2016. It is suitable for installation on wheeled or tracked armoured vehicles. Weight: 800kg Crew: 1

Mangart 300

The Mangart 300 unmanned turret is being developed by a consortium of seven Slovenian companies led by Valhalla Turrets. Armed with a Northrop Grumman XM813 Bushmaster 30mm cannon and a coaxial 7.62mm machine gun, it is designed to fit on the Boxer 8x8 armoured vehicle. A pre-production version of the turret is planned to be

displayed at Eurosatory in June 2022. Length: 230cm Width: 200cm Height: 79cm Weight: 1,700kg

Midgard 300

Valhalla's Midgard 300 RWS, operated by one crew member, is intended as the primary weapon system for reconnaissance vehicles, APCs and IFVs or a secondary weapon for MBTs. A prototype of the Midgard 300 was displayed at Eurosatory 2018 armed with an AEI Systems 30mm Venom stabilised revolver cannon and firing trials with the Venom began in September 2018. Other main weapons can be integrated to meet customer needs. Length: 80cm Width: 65cm Height: 79cm Weight: 390kg Crew: 1

YUGOIMPORT-SDPR J.P

M15

The M15 is an RWS armed with a modernised 12.7mm NSV machine gun. Incorporating a daylight camera, thermal imager and laser rangefinder in a sensor pod on the side of the armoured mount, it can be used to engage targets at ranges of up to 2,000m in both day and night conditions. Thanks to its light weight of 280kg without ammunition, it can be mounted on most types of armoured vehicles, including Serbia's domestically produced BOV M16 Miloš 4x4 and Lazar III 8x8 platforms. Length: 165.6cm Width: 102.6cm Height: 88.3cm Weight: 280kg Crew: 1

ZAKŁADY MECHANICZNE TARNÓW

ZSMU-1276

The ZSMU-1276 is an RWS designed for armoured vehicles and vessels that aims to destroy lightly armoured ground targets and low-flying aircraft during day and night conditions. Zakłady Mechaniczne Tarnów displayed its first prototype variants at the MSPO exhibition in Kielce, Poland, in September 2015. A spokesperson from PGZ told Shephard that there are four different types of this RWS being developed: A3, A4, A5 and C1 variants. Weight: 197kg Crew: 1



PRODUCTS

GUIDE TO SUPPLIERS

This section lists key companies supplying goods, services and equipment to the armoured vehicles industry worldwide.

The section is separated into two listings, by product then by supplier.

Products are listed alphabetically with suppliers and their location under each.

Supplier listings from p197 are shown alphabetically and include:

- Company address
- Email and website addresses
- Telephone numbers

Highlighted listings also include the company's logo and a summary of activity.

To update a listing or submit new information, please contact the team at insight@shephardmedia.com.

ABOVE: A Ukrainian soldier brings munitions for the BMP-2 IFV for a live range practice at the International Peacekeeping and Security Centre during Operation *UNIFIER* in Starychi, Ukraine. (Photo: Canadian Armed Forces)

PRODUCTS

Accessories

Aeromaoz (ISRAEL)
Allmakes 4x4 (UK)
Barum & Dewar (UK)
BG NOR (NORWAY)
Bose (USA)
China Xinshidai Co (CHINA)
Fibrotex (ISRAEL)
FNH UK (UK)
Hensoldt Optronics (Pty)
Ltd (SOUTH AFRICA)
Hobson Industries (UK)
International Armored
Group (UAE)
Istec Services (UK)
Master Pull (USA)
National Products (USA)
Nexter Systems (FRANCE)
Novosibirsk Instrument-
Making Plant (RUSSIA)
OTTO Engineering (USA)
Paramount Group
(SOUTH AFRICA)
pegaw Austria (AUSTRIA)
PTG
Reifendruckregelsysteme
(GERMANY)
R-PAD Technology (UK)
Rotar International
(NETHERLANDS)
Sepson (SWEDEN)
SEYNTX (BELGIUM)
Silynx Communications
(USA)
SooSung Defense
Industries
(SOUTH KOREA)
Soucy International
(CANADA)
Team Wendy (USA)
Technicae (BRAZIL)
Thermoteknix Systems (UK)
Thomas Jacks (UK)
Transhield (USA)
TT electronics AB
Connectors (UK)
Vimpex (UK)
Vitavox (UK)
W&E Platt (AUSTRALIA)
WFEL (UK)
XDS Security Protekt India
(INDIA)

All-terrain vehicles

BAE Systems (UK)
BAE Systems Hägglunds
(SWEDEN)
BAE Systems Platforms &
Services (USA)
Enhanced Protection
Systems (UK)
Hellenic Defence Systems
(EBO-PYRKAL) (GREECE)
Hobson Industries (UK)
Katmerciler (TURKEY)
Minotor-Service (BELARUS)
Oshkosh Defense (USA)

R-PAD Technology (UK)
SSE Defence (INDONESIA)
ST Engineering Land
Systems (SINGAPORE)

Armour/ballistic protection

3B-the fibreglass company
(BELGIUM)
3M Advanced Materials
(USA)
AccuTrex Products (USA)
Air Sea Land Group (UK)
Aish Technologies (UK)
Åkers Krutbruk Protection
(SWEDEN)
Aleris Rolled Products
Germany (GERMANY)
Allen-Vanguard UK (UK)
AmSafe Defense (USA)
Armor Australia
(AUSTRALIA)
ArmorWorks (USA)
ATI Defense (USA)
Battelle Memorial Institute
(USA)
BCA Ballistic Protection
(BRAZIL)
Benteler Defense
(GERMANY)
BG NOR (NORWAY)
Carmor Integrated Vehicle
Solutions (ISRAEL)
Centigon France (FRANCE)
Composhield (DENMARK)
Constellium (FRANCE)
Cook Defence Systems (UK)
CoorsTek (USA)
Crystal Company
(NETHERLANDS)
Deform (SWEDEN)
DEW Engineering &
Development (CANADA)
DSM Dyneema
(NETHERLANDS)
DuPont Protection
Technologies (USA)
DynCorp International
(USA)
Elbit Systems Land
(ISRAEL)
Excalibur Army
(CZECH REPUBLIC)
Falck Schmidt Defence
Systems (DENMARK)
Flyer Defense (USA)
FY-Composites (FINLAND)
GKN Land Systems (UK)
GuS Glass + Safety
(GERMANY)
High Impact Technology
(USA)
Hobson Industries (UK)
Honeywell Spectra (USA)
Indian Armour (INDIA)
International Armored
Group (UAE)
IRDAM SA (SWITZERLAND)
Istec Services (UK)
Jankel Armouring (UK)

Jeet & Jeet Glass and
Chemicals (INDIA)
Kenno Tech (FINLAND)
Kintex (BULGARIA)
Laggar Industries (INDIA)
Marshall Aerospace and
Defence Group (UK)
MDT Armor (USA)
Milux (FINLAND)
MKEK (TURKEY)
MKU (INDIA)
Morgan Advanced
Materials Composites and
Defence Systems (UK)
MTL Advanced (UK)
Nexter Systems (FRANCE)
OSG – Oran Safety Glass
(ISRAEL)
Permail Gloucester (UK)
PGZ (POLAND)
Plasan Sasa (ISRAEL)
PPG Aerospace (USA)
Protolab (FINLAND)
R-PAD Technology (UK)
Rafael Advanced Defense
Systems (ISRAEL)
RESSENG Fahrzeugbau
(AUSTRIA)
Rosoboronexport (RUSSIA)
RUAG Defence
(SWITZERLAND)
Scanfiber Composites
(DENMARK)
SCHOTT AG (GERMANY)
SEYNTX (BELGIUM)
Skydex Technologies (USA)
SM Group (INDIA)
Superior Graphite (USA)
Team Wendy (USA)
Teijin Aramid
(NETHERLANDS)
Teijin Aramid USA (USA)
TenCate (NETHERLANDS)
Valentin Tusch (AUSTRIA)
WZM (POLAND)
XDS Security Protekt India
(INDIA)

APCs

Al Tadmra Manufacturing
Company (SAUDI
ARABIA)
Arey Engineer Group
(UKRAINE)
Arqus (FRANCE)
ARTEC (GERMANY)
Arzamas Machinery Plant
(RUSSIA)
Carmor Integrated Vehicle
Solutions (ISRAEL)
Cavalier Group (PAKISTAN)
Centigon France (FRANCE)
Chaiseri Metal & Rubber Co
(THAILAND)
Czechoslovak Group (CSG)
(CZECH REPUBLIC)
DCD Protected Mobility
(SOUTH AFRICA)
Defence Technology
Institute (THAILAND)

Denel Vehicle Systems
(SOUTH AFRICA)
Drakensberg Truck
Manufacturers
(SOUTH AFRICA)
Excalibur Army
(CZECH REPUBLIC)
FFG Flensburg
Fahrzeugbau Gesellschaft
(GERMANY)
General Dynamics
European Land Systems
(SPAIN)
General Dynamics
European Land Systems –
Mowag (SWITZERLAND)
General Dynamics UK (UK)
Griffin Group (POLAND)
Heavy Industries Taxila
(PAKISTAN)
Hobson Industries (UK)
IAI Ramta (ISRAEL)
Ibersystems de Defensa
(SPAIN)
Integrated Convoy
Protection
(SOUTH AFRICA)
International Armored
Group (UAE)
Jankel Armouring (UK)
JSC Utek (RUSSIA)
Kalyani Group (INDIA)
Kharkiv Morozov Machine
Building Design Bureau
(UKRAINE)
Lacenaire (CYPRUS)
Lenco Armored Vehicles
(USA)
Military Industrial
Corporation (MIC)
(SUDAN)
Military Vehicle Research
and Development
Establishment (MVRDE)
(PAKISTAN)
Minotor-Service (BELARUS)
Morgan Advanced
Materials Composites and
Defence Systems (UK)
Nexter Systems (FRANCE)
Nimr Automotive (UAE)
Nurul Makina ve Sanayi
(TURKEY)
Osprea Logistics (USA)
Otokar (TURKEY)
OTT Technologies
(SOUTH AFRICA)
Patria Land (FINLAND)
Penman Engineering (UK)
PGZ (POLAND)
Pindad (Persero)
(INDONESIA)
Polaris Government and
Defense (USA)
Polski Holding Obronny
(POLAND)
Practika (UKRAINE)
R-PAD Technology (UK)
Rheinmetall BAE Systems
Land (UK)

Romarm (ROMANIA)
 Romtehnica (ROMANIA)
 Roshel Defence Solutions (CANADA)
 Rosoboronexport (RUSSIA)
 Shaanxi Aircraft (CHINA)
 ST Engineering Land Systems (SINGAPORE)
 STC Delta (GEORGIA)
 SVOS (CZECH REPUBLIC)
 Tata Motors (INDIA)
 Technology and Security Developments (SPAIN)
 Terradyne Armored Vehicles (CANADA)
 Textron Systems Marine & Land Systems (USA)
 The Armored Group (TAG) (USA)
 Ukrspesexport (UKRAINE)
 WZM (POLAND)

Associations

ADS Group (UK)
 Canadian Association of Defence & Security Industries (CANADA)
 National Defense Industrial Association (USA)
 Ukroboronprom (UKRAINE)

Camouflage

ArmorWorks (USA)
 BAE Systems (UK)
 Intermat (USA)
 MBDA (FRANCE)
 Saab Barracuda (USA)

Communication systems

Airbus Defence & Space (UK) (UK)
 Allen-Vanguard UK (UK)
 Aselsan (TURKEY)
 Avibras Indústria Aeroespacial (BRAZIL)
 Battelle Memorial Institute (USA)
 Bharat Electronics (INDIA)
 Bose (USA)
 Britannia 2000 (UK)
 China Xinshidai Co (CHINA)
 Cobham Antenna Systems - USA (USA)
 CohuHD Costar (USA)
 Control Express Finland (FINLAND)
 Elbit Systems (ISRAEL)
 Elbit Systems EW & SIGINT - Elisra (ISRAEL)
 Elbit Systems Land and C4I (ISRAEL)
 Falck Schmidt Defence Systems (DENMARK)
 Fireco (ITALY)
 FS Antennentechnik (GERMANY)
 International Armored Group (UAE)

Kongsberg Defence & Aerospace (NORWAY)
 Krauss-Maffei Wegmann (GERMANY)
 Leidos (USA)
 Leonardo (ITALY)
 Lockheed Martin UK (UK)
 MilDef (SWEDEN)
 Navistar Defense (USA)
 OTTO Engineering (USA)
 Paramount Group (SOUTH AFRICA)
 Pleora Technologies (CANADA)
 Rafael Advanced Defense Systems (ISRAEL)
 Rheinmetall Landssysteme (GERMANY)
 Romtehnica (ROMANIA)
 Rosoboronexport (RUSSIA)
 Saab (SWEDEN)
 Safran Electronics & Defense (FRANCE)
 Salzgitter Maschinenbau (GERMANY)
 Scotty Group Austria (AUSTRIA)
 Silyn Communications (USA)
 Sirtel Antenne (ITALY)
 Terma (DENMARK)
 Thales (FRANCE)
 Thales Australia (AUSTRALIA)
 Thales UK (UK)
 Ukrspesexport (UKRAINE)
 Ultra Electronics TCS (CANADA)
 ViaSat (USA)
 VimpeX (UK)
 Vitavox (UK)
 Yugoimport-SDPR J.P (SERBIA)

Computer hardware/software

Altran (FRANCE)
 Britannia 2000 (UK)
 Clockwork Solutions (USA)
 IFS Defence (UK)
 Interface Displays & Controls (USA)
 Krauss-Maffei Wegmann (GERMANY)
 Moog Inc (USA)
 Pleora Technologies (CANADA)
 Saab (SWEDEN)
 Thermoteknix Systems (UK)

Consultancy/fleet management

Babcock Defence & Security (UK)
 BAE Systems (UK)
 Battelle Memorial Institute (USA)
 Bruntingthorpe Proving Ground (UK)
 Clockwork Solutions (USA)

IFS Defence (UK)
 Mahindra Defence Systems (INDIA)
 Marshall Aerospace and Defence Group (UK)
 OVIK Special Vehicles (UK)

Displays

Aeromaoz (ISRAEL)
 Aish Technologies (UK)
 Ametek Aerospace & Defense (USA)
 Ageri (SWEDEN)
 Barco Fredrikstad (NORWAY)
 Control Express Finland (FINLAND)
 Curtiss-Wright Defense Solutions (USA)
 IEE (USA)
 Kent Modular Electronics (UK)
 KTK Kommunikationstechnik (GERMANY)
 Mafelec (FRANCE)
 MilDef (SWEDEN)
 Motec (GERMANY)
 Petercem (FRANCE)
 Sekai Electronics (USA)
 Thales UK (UK)

Electronic systems/electronic defence

Airbus Defence & Space (UK) (UK)
 Asisguard ()
 BAE Systems (UK)
 China Xinshidai Co (CHINA)
 Curtiss-Wright Defense Solutions (USA)
 Elbit Systems (ISRAEL)
 Elbit Systems EW & SIGINT - Elisra (ISRAEL)
 igus (UK)
 IMCO Industries (ISRAEL)
 Leonardo (ITALY)
 Mettle Ops (USA)
 Mil-Kabel-Systems (GERMANY)
 Rafael Advanced Defense Systems (ISRAEL)
 SINUS Electronic (GERMANY)
 Thales UK (UK)
 Ukrspesexport (UKRAINE)
 Ultra Electronics Precision Air & Land Systems (UK)
 VNII Transmash (RUSSIA)
 Yugoimport-SDPR J.P (SERBIA)

Engines/power/fuel systems

AI23 Systems (USA)
 Abbott Technologies (USA)
 Aish Technologies (UK)
 American Power Systems (USA)
 Antares TDC (UK)

Barnaultransmash (RUSSIA)
 Bental Motion Systems (ISRAEL)
 C.E. Niehoff & Co. (USA)
 Caterpillar Defence Products (UK)
 Caterpillar Defense & Federal Products (USA)
 Chelyabinsk Tractor Plant (RUSSIA)
 Cook Defence Systems (UK)
 Cummins Engines Defense (USA)
 Cummins Inc (USA)
 Detroit Diesel Corporation (USA)
 Deutz (GERMANY)
 DMS Technologies (UK)
 Dongfeng Cummins Engines (CHINA)
 Excalibur Army (CZECH REPUBLIC)
 Falck Schmidt Defence Systems (DENMARK)
 Federal-Mogul (USA)
 FPT Powertrain Technologies (ITALY)
 Gilep (FRANCE)
 GKN Land Systems (UK)
 Harrington Generators International (HGI) (UK)
 HDT Global (USA)
 Hema Defense Endüstri (TURKEY)
 Hobson Industries (UK)
 Hyundai Auto Tech (SOUTH KOREA)
 Jenoptik Advanced Systems (GERMANY)
 L3 Combat Propulsion Systems (USA)
 L3 Magnet-Motor (GERMANY)
 LOC Performance (USA)
 Mack Defense (USA)
 Malyshev Plant (UKRAINE)
 MAN Truck & Bus (GERMANY)
 Marvin Land Systems (USA)
 Mecc Alte (ITALY)
 Mercedes-Benz Defence Vehicles (GERMANY)
 Mettle Ops (USA)
 Moog Inc (USA)
 MTU (GERMANY)
 Musthane (FRANCE)
 Navistar Defense (USA)
 NorcaTec (USA)
 Perkins Engines (UK)
 PGZ (POLAND)
 Powervamp (UK)
 Pronal (FRANCE)
 Raytheon UK (UK)
 RENK (GERMANY)
 Ricardo UK (UK)
 Robertson Fuel Systems (USA)
 Rolls-Royce (UK)
 Roush Defense (USA)

Steyr Motors (AUSTRIA)
Systems Sunlight (GREECE)
Texelis (FRANCE)
Ultra Electronics Precision
Air & Land Systems (UK)
Volvo Trucks (USA)
WZM (POLAND)

Fire safety systems/fire suppression

Fireco (ITALY)
Kilde-Deugra
Brandschutzsysteme
(GERMANY)
Lifeline Fire & Safety
Systems (UK)
LVT High Tech Fire
Protection (ISRAEL)
Marshall Aerospace and
Defence Group (UK)
Ultra Electronics Precision
Air & Land Systems (UK)

Fluid systems

Excalibur Army
(CZECH REPUBLIC)
Gilep (FRANCE)
Hutchinson Aeroservices
(FRANCE)
Robertson Fuel Systems
(USA)
Sacatec (FRANCE)

Heating/air conditioning/ environmental control

Active Gear Co of Canada
(CANADA)
Electrothermal
Engineering (UK)
Excalibur Army
(CZECH REPUBLIC)
HDT Global (USA)
Marvin Land Systems (USA)
Red Dot Corporation (USA)

IFVs

ARTEC (GERMANY)
BAE Systems Platforms &
Services (USA)
CIO Consorzio Iveco-Oto
Melara (ITALY)
Elbit Systems Land
(ISRAEL)
Excalibur Army
(CZECH REPUBLIC)
General Dynamics
European Land Systems
(SPAIN)
General Dynamics
European Land Systems –
Mowag (SWITZERLAND)
General Dynamics UK (UK)
Hanwha Defense
(SOUTH KOREA)
Ibersystems de Defensa
(SPAIN)
Kurganmashzavod
(RUSSIA)
Minotor-Service (BELARUS)

Nexter Systems (FRANCE)
Osprea Logistics (USA)
Patria Land (FINLAND)
Pindad (Persero)
(INDONESIA)
PSM Projekt System &
Management
(GERMANY)
R-PAD Technology (UK)
Rheinmetall Landsysteme
(GERMANY)
Romtehnica (ROMANIA)
Rosoboronexport (RUSSIA)
Rosomak (POLAND)
RUAG Defence
(SWITZERLAND)
Santa Barbara Infrared
(USA)
ST Engineering Land
Systems (SINGAPORE)
Textron Systems Marine &
Land Systems (USA)
Yugoimport-SDPR J.P
(SERBIA)
Zetor Engineering
(CZECH REPUBLIC)

Insulation/vibration/ acoustic

ACOEM Group (FRANCE)
Bose (USA)
Hübner (GERMANY)
Hutchinson Aeroservices
(FRANCE)
National Products (USA)
Race-Tec Sealing (UK)
Rafael Advanced Defense
Systems (ISRAEL)
Sacatec (FRANCE)
Sika Services
(SWITZERLAND)
Sil-Mid (UK)
Vitavax (UK)

Integration/engineering

Airbus Defence & Space
(UK) (UK)
Antares TDC (UK)
Battelle Memorial Institute
(USA)
Beagle Technology Group
(UK)
DRS Land Systems (USA)
EKA (UK)
EXPAL (SPAIN)
General Dynamics Land
Systems – Canada
(CANADA)
Hanwha Defense
(SOUTH KOREA)
Jenoptik Advanced
Systems (GERMANY)
L3 Magnet-Motor
(GERMANY)
LOC Performance (USA)
Mettle Ops (USA)
Norinco (CHINA)
Pearson Engineering (UK)
Penman Engineering (UK)
Ricardo UK (UK)

Roush Defense (USA)
ST Engineering Land
Systems (SINGAPORE)
Thales UK (UK)
Đuro Đaković Specijalna
vozila (CROATIA)

Lights

Aeromaaz (ISRAEL)
Aerospace & Defence
Products (AUSTRALIA)
Allmakes 4x4 (UK)
BG NOR (NORWAY)
Excalibur Army
(CZECH REPUBLIC)
Federal-Mogul (USA)
Fireco (ITALY)
Grote Industries (USA)
IMCO Industries (ISRAEL)
International Armored
Group (UAE)
KTK
Kommunikationstechnik
(GERMANY)
Mafelec (FRANCE)
Oshino Lamps (UK)
Oxley Group (UK)
Petercem (FRANCE)
SCHOTT AG (GERMANY)
Thomas Jacks (UK)
Ultra Electronics Precision
Air & Land Systems (UK)
Vimpex (UK)
Warn (USA)
Warn Industries (USA)

MBTs

BAE Systems (UK)
BAE Systems Platforms &
Services (USA)
BUMAR Łąbędy (POLAND)
China Xinhidai Co
(CHINA)
CIO Consorzio Iveco-Oto
Melara (ITALY)
Elbit Systems Land
(ISRAEL)
Excalibur Army
(CZECH REPUBLIC)
General Dynamics
European Land Systems
(SPAIN)
General Dynamics
European Land Systems
– Santa Bárbara Sistemas
(SPAIN)
General Dynamics Land
Systems – Australia
(AUSTRALIA)
General Dynamics UK (UK)
Heavy Industries Taxila
(PAKISTAN)
Heavy Vehicle Factory
(INDIA)
Hellenic Vehicle Industry –
ELVO (GREECE)
Hyundai Rotem
(SOUTH KOREA)
International Golden Group
(UAE)

Kharkiv Morozov Machine
Building Design Bureau
(UKRAINE)
Mitsubishi Heavy Industries
(JAPAN)
Nexter Systems (FRANCE)
Norinco (CHINA)
OBRUM (POLAND)
Ordnance Factory Board
(INDIA)
Otokar (TURKEY)
R-PAD Technology (UK)
Rheinmetall BAE Systems
Land (UK)
Romarm (ROMANIA)
Romtehnica (ROMANIA)
RUAG Defence
(SWITZERLAND)
Ukrspецexport (UKRAINE)
UralVagonZavod (RUSSIA)
Volgograd Machine-
Building Company (VGTZ)
(RUSSIA)
Yugoimport-SDPR J.P
(SERBIA)
Đuro Đaković Specijalna
vozila (CROATIA)

Mine protection

3d-Radar (NORWAY)
Åkers Krutbruk Protection
(SWEDEN)
Allen-Vanguard UK (UK)
ARTEC (GERMANY)
BAE Systems Platforms &
Services (USA)
Carmor Integrated Vehicle
Solutions (ISRAEL)
Composhield
(DENMARK)
Critical Solutions
International (USA)
DCD Protected Mobility
(SOUTH AFRICA)
Defence Land Systems
India (INDIA)
Denel Land Systems
(SOUTH AFRICA)
Denel Vehicle Systems
(SOUTH AFRICA)
DEW Engineering &
Development (CANADA)
DOK-ING (CROATIA)
Drakensberg Truck
Manufacturers
(SOUTH AFRICA)
General Dynamics Land
Systems – Canada
(CANADA)
IMUT (EGYPT)
International Armored
Group (UAE)
Kamaz (RUSSIA)
Konštrukta – Defence
(SLOVAKIA)
Mahindra Defence Systems
(INDIA)
Navistar Defense (USA)
Nexter Systems (FRANCE)
OmniTech Robotics (USA)

Paramount Group (SOUTH AFRICA)
 Pearson Engineering (UK)
 Rafael Advanced Defense Systems (ISRAEL)
 Romtehnica (ROMANIA)
 Rotar International (NETHERLANDS)
 RUAG Defence (SWITZERLAND)
 Saab (SWEDEN)
 Saudi Groups (SAUDI ARABIA)
 ST Engineering Land Systems (SINGAPORE)
 Tata Motors (INDIA)
 Ukrinmash (UKRAINE)
 UralVagonZavod (RUSSIA)
 Đuro Đaković Specijalna vozila (CROATIA)

MRO/support

Al Tadmra Manufacturing Company (SAUDI ARABIA)
 AM General (USA)
 AMDAC (MALAYSIA)
 Arquus (FRANCE)
 Barum & Dewar (UK)
 Beagle Technology Group (UK)
 CDS Defence Support (UK)
 CHSnor (NORWAY)
 DCD Protected Mobility (SOUTH AFRICA)
 Diehl Defence Land Systems (GERMANY)
 DynCorp International (USA)
 Excalibur Army (CZECH REPUBLIC)
 Fabrika automobila Priboj (FAP) (SERBIA)
 Falck Schmidt Defence Systems (DENMARK)
 Federal-Mogul (USA)
 FFG Flensburg Fahrzeugbau Gesellschaft (GERMANY)
 FNH UK (UK)
 General Dynamics Land Systems – Australia (AUSTRALIA)
 Hobson Industries (UK)
 HSW - Huta Stalowa Wola (POLAND)
 Hydromechanical Engineering (ISRAEL)
 Hyundai Rotem (SOUTH KOREA)
 Kembara Suci (KSSB) (MALAYSIA)
 Lockheed Martin UK (UK)
 Marshall Aerospace and Defence Group (UK)
 Mercedes-Benz Cars Netherlands (NETHERLANDS)
 MTU (GERMANY)
 Nexter Systems (FRANCE)

OBURM (POLAND)
 Osprea Logistics (USA)
 Patria Land (FINLAND)
 Practika (UKRAINE)
 Rosomak (POLAND)
 Rotar International (NETHERLANDS)
 RUAG Defence (SWITZERLAND)
 Saab (SWEDEN)
 Schleifring und Apparatebau (GERMANY)
 SooSung Defense Industries (SOUTH KOREA)
 ST Engineering Land Systems (SINGAPORE)
 Technology and Security Developments (SPAIN)
 Tectron Systems Marine & Land Systems (USA)
 Weststar Defence Industries (MALAYSIA)

Navigation

Airbus Defence & Space (UK) (UK)
 Asisguard ()
 Bharat Electronics (INDIA)
 Daco Scientific (UK)
 Hensoldt Optonics (Pty) Ltd (SOUTH AFRICA)
 iXBlue (UK)
 Kearfott Corporation (USA)
 KVH Industries (USA)
 Leonardo (ITALY)
 Motec (GERMANY)
 Nexter Systems (FRANCE)
 Rosoboronexport (RUSSIA)
 Safran Electronics & Defense (FRANCE)

Optical systems/night vision/periscopes

Advanced Defense Systems, Inc (ADS) (USA)
 Artemis Optical (UK)
 Battelle Memorial Institute (USA)
 Defence Vision Systems (UK)
 Elbit Systems (ISRAEL)
 Elbit Systems Intelligence and Electro-optics – Elop (ISRAEL)
 Elbit Systems – ITL (ISRAEL)
 GuS Glass & Safety (GERMANY)
 IRDAM SA (SWITZERLAND)
 iXBlue (UK)
 iXBlue SAS (FRANCE)
 Jenoptik Advanced Systems (GERMANY)
 Kent Periscopes (UK)
 KTK Kommunikationstechnik (GERMANY)
 Kurganmashzavod (RUSSIA)
 L3 KEO (USA)

Leonardo (ITALY)
 Lockheed Martin UK (UK)
 Norinco (CHINA)
 Novosibirsk Instrument-Making Plant (RUSSIA)
 OIP Sensor Systems (BELGIUM)
 Opgal Optronic Industries (ISRAEL)
 Ordnance Factory Board (INDIA)
 Oxley Group (UK)
 Rafael Advanced Defense Systems (ISRAEL)
 Roush Defense (USA)
 Safran Electronics & Defense (FRANCE)
 SCHROTH Safety Products (GERMANY)
 Sekai Electronics (USA)
 Teledyne FLIR (USA)
 Thales UK (UK)
 Thales Underwater Systems (FRANCE)
 Theon Sensors (GREECE)
 Thermoteknix Systems (UK)
 Wamco (USA)

Parts/components

3M Peltor (UK)
 4C Strategies (UK)
 AccuTrex Products (USA)
 ACOEM Group (FRANCE)
 Advanced Interconnect Manufacturing (USA)
 AFV Sim (UK)
 Aish Technologies (UK)
 Akzo Nobel Aerospace Coatings (USA)
 Allmakes 4x4 (UK)
 AM General (USA)
 Ametek Vehicular Instrumentation Systems (USA)
 Anant Defence Systems (INDIA)
 Arquus (FRANCE)
 ATI Defense (USA)
 Australian Ultimate Suspension (AUSTRALIA)
 AxleTech International (USA)
 BAE Systems Platforms & Services (USA)
 Barum & Dewar (UK)
 Beagle Technology Group (UK)
 Bental Motion Systems (ISRAEL)
 BG NOR (NORWAY)
 Bioquell UK (UK)
 Cook Defence Systems (UK)
 Daco Scientific (UK)
 DHAPSA Military & Defense (MEXICO)
 Drallim Industries (UK)
 Excalibur Army (CZECH REPUBLIC)
 Federal-Mogul (USA)
 FFG Flensburger Fahrzeugbau Gesellschaft (GERMANY)
 FNH UK (UK)
 FNSS Savunma Sistemleri A.Ş. (TURKEY)
 General Dynamics Land Systems – Canada (CANADA)
 GKN Land Systems (UK)
 Harmonic Drive (USA)
 Hemscheidt Fahrwerktechnik (GERMANY)
 Hobson Industries (UK)
 Honeywell International (USA)
 Hübner (GERMANY)
 Ibex Marina Ropes (UK)
 igus (UK)
 Interface Displays & Controls (USA)
 Iste Services (UK)
 Kaller (SWEDEN)
 Mafelec (FRANCE)
 Meggitt Defense Systems (USA)
 MilDef (SWEDEN)
 Mile Marker International (USA)
 Moog Inc (USA)
 MTU (GERMANY)
 Musthane (FRANCE)
 National Products (USA)
 Navistar Defense (USA)
 Nexter Systems (FRANCE)
 NorcaTec (USA)
 Northrop Grumman Innovation Systems (USA)
 OVIK Special Vehicles (UK)
 Petercorm (FRANCE)
 Pleora Technologies (CANADA)
 Polamco (UK)
 R-PAD Technology (UK)
 RENK (GERMANY)
 Rheinmetall Landsysteme (GERMANY)
 Romtehnica (ROMANIA)
 Rotzler (GERMANY)
 Sabix International (BELGIUM)
 Sacatec (FRANCE)
 Schleifring und Apparatebau (GERMANY)
 SCHOTT AG (GERMANY)
 Sepson (SWEDEN)
 Soucy International (CANADA)
 Spartan Chassis (USA)
 Systems Sunlight (GREECE)
 Technicae (BRAZIL)
 Texelis (FRANCE)
 Timoney Technology (IRELAND)
 TriMark (USA)
 TriMark Europe (UK)
 Trimite Global Coatings (UK)

TT electronics AB
Connectors (UK)
Ultra Electronics
Measurement Systems
(USA)
Ultra Electronics Precision
Air & Land Systems (UK)
ZF Luftfahrttechnik
(GERMANY)

Remote weapon stations

AEI Systems (UK)
Ares Aerospace e Defesa
(BRAZIL)
Aselsan (TURKEY)
BAE Systems Platforms &
Services (USA)
Burevestnik (RUSSIA)
Denel Vehicle Systems
(SOUTH AFRICA)
Display Design Office
(BELARUS)
Dynamit Nobel Defence
(GERMANY)
Elbit Systems (ISRAEL)
Elbit Systems Land
(ISRAEL)
Electro Optic Systems
(EOS) (AUSTRALIA)
Escribano Mechanical &
Engineering (SPAIN)
ESL Advanced Information
Technology (AUSTRIA)
FN Herstal (BELGIUM)
General Robotics (ISRAEL)
IMI Slavin Land Systems
Division (LASD) (ISRAEL)
Kongsberg Defence &
Aerospace (NORWAY)
Kongsberg Protech
Systems (NORWAY)
Krauss-Maffei Wegmann
(GERMANY)
Land Mobility Technologies
(LMT) (SOUTH AFRICA)
Leonardo (ITALY)
Leonardo Defence Systems
(ITALY)
Leonardo Land & Naval
Defence Electronics
(ITALY)
Norinco (CHINA)
NTGS (SPAIN)
Opgal Optronic Industries
(ISRAEL)
Otokar (TURKEY)
Panhard (FRANCE)
Precision Remotes (USA)
Pro Optica (ROMANIA)
Rafael Advanced Defense
Systems (ISRAEL)
Reutech (SOUTH AFRICA)
Rheinmetall Canada Inc
(CANADA)
ST Engineering Land
Systems (SINGAPORE)
Valhalla (SLOVENIA)
Yugoimport-SDPR J.P
(SERBIA)

Restraints/containment

AmSafe Aviation (USA)
Capewell Aerial Systems
(USA)
Drallim Industries (UK)
Falck Schmidt Defence
Systems (DENMARK)
Ibex Marina Ropes (UK)
Istec Services (UK)
Kenno Tech (FINLAND)
Marshall Aerospace and
Defence Group (UK)
Networks Enterprises (USA)
pewag Austria (AUSTRIA)
Pronal (FRANCE)
R-PAD Technology (UK)
RUAG Defence
(SWITZERLAND)
RUD Chain (USA)
SCHROTH Safety Products
(GERMANY)

Safety/survival/CBRN protection

ACOEM Group (FRANCE)
Akzo Nobel Aerospace
Coatings (USA)
Allen-Vanguard UK (UK)
Altran (FRANCE)
Amerex Defense (USA)
Battelle Memorial Institute
(USA)
Beth-El Industries (ISRAEL)
Bioquell UK (UK)
Carmor Integrated Vehicle
Solutions (ISRAEL)
CDS Defence Support (UK)
Dräger Safety UK (UK)
DRS Land Systems (USA)
DSM Dyneema
(NETHERLANDS)
em:tronic (SLOVENIA)
Firetrace Aerospace (USA)
Gamma Technical
Corporation (HUNGARY)
Hutchinson Aeroservices
(FRANCE)
Lockheed Martin UK (UK)
Marvin Land Systems (USA)
NBC-Sys (FRANCE)
Ordnance Factory Board
(INDIA)
Proengin (FRANCE)
Proengin Inc (USA)
Rheinmetall Landsysteme
(GERMANY)
Rosoboronexport (RUSSIA)
SCHROTH Safety Products
(GERMANY)
Sepson (SWEDEN)
SpanSet (UK)
Vimpex (UK)

Seats

ArmorWorks (USA)
BG NOR (NORWAY)
Jankel Armouring (UK)
König Komfort- und
Rennsitze (GERMANY)
Protolab (FINLAND)

Team Wendy (USA)
TEK Military Seating (UK)
Vital Seating and Systems
(UK)

Suspension

Australian Ultimate
Suspension (AUSTRALIA)
AxleTech International
(USA)
BG NOR (NORWAY)
Griffin Group (POLAND)
Hanwha Defense
(SOUTH KOREA)
Hema Defense Endüstri
(TURKEY)
Indian Armour (INDIA)
L3 Combat Propulsion
Systems (USA)
LOC Performance (USA)
Meritor (USA)

Testing/R&D

AMDAC (MALAYSIA)
Drallim Industries (UK)
DRS Land Systems (USA)
EDM (UK)
Exponent (USA)
Hanwha Defense
(SOUTH KOREA)
HSW- Huta Stalowa Wola
(POLAND)
IABG (GERMANY)
Impetus Afea (NORWAY)
Jankel Armouring (UK)
Leidos (USA)
Marshall Aerospace and
Defence Group (UK)
Marvin Land Systems (USA)
Mettle Ops (USA)
Military Vehicle Research
and Development
Establishment (MVRDE)
(PAKISTAN)
Millbrook Proving Ground
(UK)
Penman Engineering (UK)
PGZ (POLAND)
Rafael Advanced Defense
Systems (ISRAEL)
RENK (GERMANY)
Roush Defense (USA)
Technicae (BRAZIL)
TNO (NETHERLANDS)
US Army TACOM Life Cycle
Management Command
(USA)
WZM (POLAND)

Tracked vehicles

Anniston Army Depot (USA)
Arey Engineer Group
(UKRAINE)
Ashok Leyland (INDIA)
BAE Systems (UK)
BAE Systems Platforms &
Services (USA)
BUMAR Łąbędy (POLAND)
China Xinshidai Co (CHINA)
CHSnor (NORWAY)
CIO Consorzio Iveco-Oto
Melara (ITALY)
Defence Research
& Development
Organisation (INDIA)
FNSS Savunma Sistemleri
A.Ş. (TURKEY)
General Dynamics
European Land Systems
(SPAIN)
General Dynamics
European Land Systems
– Santa Bárbara Sistemas
(SPAIN)
General Dynamics Land
Systems – Canada
(CANADA)
General Dynamics UK (UK)
Heavy Industries Taxila
(PAKISTAN)
HSW- Huta Stalowa Wola
(POLAND)
Hyundai Rotem
(SOUTH KOREA)
Israel Defense Forces
(ISRAEL)
Katmercil (TURKEY)
Kharkiv Tractor Plant
(UKRAINE)
Kharkiv Morozov Machine
Building Design Bureau
(UKRAINE)
KNDS (NETHERLANDS)
Krauss-Maffei Wegmann
(GERMANY)
Kurganmashzavod
(RUSSIA)
Minotor-Service (BELARUS)
Mitsubishi Electric (JAPAN)
Motovilikhinskiye zavody
(RUSSIA)
Nexter Systems (FRANCE)
Norinco (CHINA)
OBRUM (POLAND)
Ordnance Factory Board
(INDIA)
OVIK Special Vehicles (UK)
Pearson Engineering (UK)
PGZ (POLAND)
PSM Projekt System &
Management
(GERMANY)
Rheinmetall BAE Systems
Land (UK)
Rheinmetall Landsysteme
(GERMANY)
Romarm (ROMANIA)
RUAG Defence
(SWITZERLAND)
Sabex International
(BELGIUM)
ST Engineering Land
Systems (SINGAPORE)
STC Delta (GEORGIA)
Supacat (UK)
Terem-Khan Krum
(BULGARIA)
Ukrspецexport (UKRAINE)
UralVagonZavod (RUSSIA)
WZM (POLAND)

Zetor Engineering
(CZECH REPUBLIC)
Đuro Đaković Specijalna
vozila (CROATIA)

Turrets

Burevestnik (RUSSIA)
Cook Defence Systems (UK)
Denel Vehicle Systems
(SOUTH AFRICA)
Excalibur Army
(CZECH REPUBLIC)
FNSS Savunma Sistemleri
A.Ş. (TURKEY)
General Dynamics
European Land Systems
(SPAIN)
General Dynamics
European Land Systems
– Santa Bárbara Sistemas
(SPAIN)
General Dynamics Land
Systems – Canada
(CANADA)
General Dynamics UK (UK)
Hanwha Defense
(SOUTH KOREA)
Hensoldt Optronics (Pty)
Ltd (SOUTH AFRICA)
Jordan Advanced
Machining Company
(JordanAMCO) (JORDAN)
Kalyani Group (INDIA)
Kurganmashzavod
(RUSSIA)
Moog Inc (USA)
Nexter Systems (FRANCE)
Rafael Advanced Defense
Systems (ISRAEL)
Rheinmetall Landsysteme
(GERMANY)
ST Engineering Land
Systems (SINGAPORE)
STC Delta (GEORGIA)
Textron Systems Marine &
Land Systems (USA)
Valhalla (SLOVENIA)
Zakłady Mechaniczne
Tarnów (POLAND)

Upgrades/ modernisation/ conversions

Airbus Defence & Space
(UK) (UK)
AMDAC (MALAYSIA)
Anniston Army Depot
(USA)
Ashok Leyland (INDIA)
BAE Systems (UK)
Barum & Dewar (UK)
CHSnor (NORWAY)
Elbit Systems (ISRAEL)
Elbit Systems EW & SIGINT
– Elisra (ISRAEL)
Elbit Systems Intelligence
and Electro-optics – Elop
(ISRAEL)
Elbit Systems Land
(ISRAEL)

Elbit Systems Land and C4I
(ISRAEL)
Elbit Systems of America
(USA)
Excalibur Army
(CZECH REPUBLIC)
FFG Flensburger
Fahrzeugbau Gesellschaft
(GERMANY)
FNSS Savunma Sistemleri
A.Ş. (TURKEY)
General Starlight
(CANADA)
Heavy Industries Taxila
(PAKISTAN)
Hobson Industries (UK)
Hydromechanical
Engineering (ISRAEL)
Hyundai Rotem
(SOUTH KOREA)
International Armored
Group (UAE)
John Cockerill Defense
(BELGIUM)
Kharkiv Morozov Machine
Building Design Bureau
(UKRAINE)
LOC Performance (USA)
Lockheed Martin UK (UK)
Marshall Aerospace and
Defense Group (UK)
MKU (INDIA)
Morgan Advanced
Materials Composites and
Defense Systems (UK)
Nexter Systems (FRANCE)
OBRUM (POLAND)
Omnitech Robotics (USA)
OVIK Special Vehicles (UK)
PGZ (POLAND)
Plasan Sasa (ISRAEL)
PSV Wipers (UK)
Rafael Advanced Defense
Systems (ISRAEL)
Ricardo UK (UK)
Rosomak (POLAND)
Rubb Buildings (UK)
Saab (SWEDEN)
Sabiex International
(BELGIUM)
Sacatec (FRANCE)
Safran Electronics &
Defense (FRANCE)
SEYNTX (BELGIUM)
ST Engineering Land
Systems (SINGAPORE)
Technicae (BRAZIL)
Textron Systems Marine &
Land Systems (USA)
ULIS (FRANCE)
Valentin Tusch (AUSTRIA)
WZM (POLAND)
Đuro Đaković Specijalna
vozila (CROATIA)

Weapons – guns/ ammunition

Adcole Maryland Aerospace
(USA)
AEI Systems (UK)

BAE Systems Platforms &
Services (USA)
Central Design and
Research Bureau of
Sporting and Hunting
Weapons (TskIB SOO)
(RUSSIA)
China Xinshidai Co (CHINA)
CTA International (FRANCE)
Denel Land Systems
(SOUTH AFRICA)
Diehl Defence Land
Systems (GERMANY)
Elbit Systems Land
(ISRAEL)
Excalibur Army
(CZECH REPUBLIC)
EXPAL (SPAIN)
FN Herstal (BELGIUM)
FNH UK (UK)
Garwood Industries
(USA)
General Dynamics
European Land Systems
(SPAIN)
General Dynamics
European Land Systems
– Santa Bárbara Sistemas
(SPAIN)
General Dynamics Land
Systems – Canada
(CANADA)
Heavy Industries Taxila
(PAKISTAN)
Hirtenberger Defence
Systems (AUSTRIA)
John Cockerill Defense
(BELGIUM)
KBP Instrument Design
Bureau (RUSSIA)
Konštrukta – Defence
(SLOVAKIA)
Kurganmashzavod
(RUSSIA)
MLM International (USA)
Moog Inc (USA)
Motovilikhinskiye zavody
(RUSSIA)
Nammo (NORWAY)
Nexter Systems (FRANCE)
Norinco (CHINA)
Ordnance Factory Board
(INDIA)
Rafael Advanced Defense
Systems (ISRAEL)
Romtehnica (ROMANIA)
Rosoboronexport (RUSSIA)
SM Group (INDIA)
ST Engineering Land
Systems (SINGAPORE)
Ukrspesexport (UKRAINE)
Yugoimport-SDPR J.P
(SERBIA)

Weapons – rockets/ missiles

Arnold Defense (USA)
Aselsan (TURKEY)
Avibras Indústria
Aeroespacial (BRAZIL)

Excalibur Army
(CZECH REPUBLIC)
Falck Schmidt Defence
Systems (DENMARK)
Hanwha Defense
(SOUTH KOREA)
Hongdu Aviation Industry
Group (CHINA)
HSW- Huta Stalowa Wola
(POLAND)
KBP Instrument Design
Bureau (RUSSIA)
Kongsberg Defence &
Aerospace (NORWAY)
Konštrukta – Defence
(SLOVAKIA)
Leonardo (ITALY)
Leonardo DRS Airborne
& Intelligence Systems
(USA)
Lockheed Martin Missiles
and Fire Control (USA)
Lockheed Martin UK (UK)
MBDA (FRANCE)
Nammo (NORWAY)
Norinco (CHINA)
NPO Mashinostroyeniya
(RUSSIA)
PGZ (POLAND)
Rafael Advanced Defense
Systems (ISRAEL)
Raytheon UK (UK)
Roketsan (TURKEY)
Romarm (ROMANIA)
Romtehnica (ROMANIA)
Rosoboronexport (RUSSIA)
Saab (SWEDEN)
State Kyiv Design Bureau
Luch (UKRAINE)
Ukrspesexport (UKRAINE)
Yugoimport-SDPR J.P
(SERBIA)

Wheeled vehicles (eight)

Al Jasoor (UAE)
AMDAC (MALAYSIA)
AMZ-KUTNO (POLAND)
ARTEC (GERMANY)
Arzamas Machinery Plant
(RUSSIA)
Calidus (UAE)
Cavalier Group (PAKISTAN)
CIO Consorzio Iveco-Oto
Melara (ITALY)
Czechoslovak Group (CSG)
(CZECH REPUBLIC)
Defence Technology
Institute (THAILAND)
General Dynamics
European Land Systems –
Mowag (SWITZERLAND)
General Dynamics Land
Systems – Australia
(AUSTRALIA)
General Dynamics Land
Systems – Canada
(CANADA)
HSW- Huta Stalowa Wola
(POLAND)

Hyundai Rotem (SOUTH KOREA)
Ibersystems de Defensa (SPAIN)
Iveco Defence Vehicles (ITALY)
Katmercil (TURKEY)
Kharkiv Morozov Machine Building Design Bureau (UKRAINE)
Komatsu (JAPAN)
Krauss-Maffei Wegmann (GERMANY)
Mercedes-Benz Defence Vehicles (GERMANY)
Military Industrial Company (RUSSIA)
Navistar Defense (USA)
Nexter Systems (FRANCE)
Oshkosh Defense (USA)
Otokar (TURKEY)
Patria Land (FINLAND)
PGZ (POLAND)
Practika (UKRAINE)
R-PAD Technology (UK)
Rheinmetall BAE Systems Land (UK)
Rheinmetall MAN Military Vehicles (GERMANY)
Romarm (ROMANIA)
Romtehnica (ROMANIA)
Rosomak (POLAND)
ST Engineering Land Systems (SINGAPORE)
Terem-Khan Krum (BULGARIA)
Ukrspesexport (UKRAINE)
Uzina Automecanica Moreni (ROMANIA)
Yugoimport-SDPR J.P (SERBIA)
Zetor Engineering (CZECH REPUBLIC)
Đuro Đaković Specijalna vozila (CROATIA)

Wheeled vehicles (four)

140 Repair Plant (BELARUS)
Achleitner Fahrzeugbau (AUSTRIA)
ACMAT Defense (FRANCE)
Al Tadrea Manufacturing Company (SAUDI ARABIA)
AM General (USA)
AMDAC (MALAYSIA)
AMZ-KUTNO (POLAND)
Armored Vehicles & Heavy Equipment Factory (SAUDI ARABIA)
Armoured Vehicles and Heavy Equipment Factory (SAUDI ARABIA)
Arquus (FRANCE)
Aselsan (TURKEY)
Ashok Leyland (INDIA)
Aurum Security (GERMANY)
Avibras Indústria Aeroespacial (BRAZIL)

BAE Systems (UK)
BAE Systems Maritime – Naval Ships (UK)
BAE Systems Platforms & Services (USA)
Bruisertech (SOUTH AFRICA)
Carmor Integrated Vehicle Solutions (ISRAEL)
Caterpillar Defense & Federal Products (USA)
Cavalier Group (PAKISTAN)
Centigon France (FRANCE)
Chaisier Metal & Rubber Co (THAILAND)
China Xinshidai Co (CHINA)
Concept Sp. z.o.o. (POLAND)
Critical Solutions International (USA)
Czechoslovak Group (CSG) (CZECH REPUBLIC)
DCD Protected Mobility (SOUTH AFRICA)
Defence Land Systems India (INDIA)
Defenture (NETHERLANDS)
DefTech DRB-HICOM Defence Technologies (MALAYSIA)
Denel Mechem (SOUTH AFRICA)
DGIM (MEXICO)
DHAPSA Military & Defense (MEXICO)
Drakensberg Truck Manufacturers (SOUTH AFRICA)
Dutch Military Vehicles (NETHERLANDS)
Einsa (SPAIN)
Elbit Systems Land (ISRAEL)
em.tronic (SLOVENIA)
Enhanced Protection Systems (UK)
Excalibur Army (CZECH REPUBLIC)
Fabrika automobila Priboj (FAP) (SERBIA)
Flyer Defense (USA)
Gaia Automotive Industries (ISRAEL)
Gamma Technical Corporation (HUNGARY)
General Dynamics European Land Systems – Mowag (SWITZERLAND)
General Dynamics European Land Systems – Steyr (AUSTRIA)
General Dynamics Land Systems – Canada (CANADA)
Granite Tactical Vehicles (USA)
Griffin Group (POLAND)
Grupo Inbra Filtro (BRAZIL)
Hajivairy Group (PAKISTAN)

Hanwha Defense (SOUTH KOREA)
Hellenic Vehicle Industry – ELVO (GREECE)
Hobson Industries (UK)
IAI Ramta (ISRAEL)
IMUT (EGYPT)
Inkas Armored (CANADA)
Integrated Convoy Protection (SOUTH AFRICA)
International Armored Group (UAE)
Isotrex Manufacturing (UAE)
Iveco Defence Vehicles (ITALY)
Jaguar Land Rover (UK)
Jankel Armouring (UK)
JCB Defence Products (UK)
Jordan Light Vehicle Manufacturing (JORDAN)
JSC Utek (RUSSIA)
Kalyani Group (INDIA)
Katmercil (TURKEY)
Kharkiv Morozov Machine Building Design Bureau (UKRAINE)
Komatsu (JAPAN)
Krauss-Maffei Wegmann (GERMANY)
Lenco Armored Vehicles (USA)
Mahindra Defence Systems (INDIA)
MDT Armor (USA)
Mercedes-Benz Cars Netherlands (NETHERLANDS)
Mercedes-Benz Defence Vehicles (GERMANY)
Military Industrial Company (RUSSIA)
Military Industries Corporation (MIC) (SAUDI ARABIA)
Military Vehicle Research and Development Establishment (MVRDE) (PAKISTAN)
Minerva Special Purpose Vehicles (UAE)
Mobile Land Systems (UAE)
Morgan Advanced Materials Composites and Defence Systems (UK)
Nant Trade (THAILAND)
Navistar Defense (USA)
Nexter Systems (FRANCE)
Nimr Automotive (UAE)
Oshkosh Defense (USA)
Osprea Logistics (USA)
Otokar (TURKEY)
OTT Technologies (SOUTH AFRICA)
OVIK Special Vehicles (UK)
Panhard (FRANCE)
Paramount Group (SOUTH AFRICA)
Pearson Engineering (UK)

Penman Engineering (UK)
PGZ (POLAND)
Pindad (Persero) (INDONESIA)
Practika (UKRAINE)
R-PAD Technology (UK)
Remdiesel (RUSSIA)
RESSENIG Fahrzeugbau (AUSTRIA)
Rheinmetall Landsysteme (GERMANY)
Rheinmetall MAN Military Vehicles (GERMANY)
Romarm (ROMANIA)
Romtehnica (ROMANIA)
Rosoboronexport (RUSSIA)
Rosomak (POLAND)
Rotar International (NETHERLANDS)
S.Siam Panich (THAILAND)
Sabix International (BELGIUM)
Saudi Groups (SAUDI ARABIA)
Shaanxi Baoji Special Vehicles Manufacturing (CHINA)
SOFAME (FRANCE)
SSE Defence (INDONESIA)
ST Engineering Land Systems (SINGAPORE)
Stark Motors (QATAR)
STC Delta (GEORGIA)
Streit Group (UAE)
Supacat (UK)
SVOS (CZECH REPUBLIC)
Tata Motors (INDIA)
Technology and Security Developments (SPAIN)
Terem-Khan Krum (BULGARIA)
Terradyne Armored Vehicles (CANADA)
Textron Systems Marine & Land Systems (USA)
The Armored Group (TAG) (USA)
Tumosan (TURKEY)
Ukrainian Armor (UKRAINE)
Ukrinmash (UKRAINE)
Ukrspesexport (UKRAINE)
Ural Automotive Plant (RUSSIA)
URO Vehiculos Especiales (SPAIN)
Uzina Automecanica Moreni (ROMANIA)
Weststar Defence Industries (MALAYSIA)
WZM (POLAND)

Wheeled vehicles (six)

3d-Radar (NORWAY)
ACMAT Defense (FRANCE)
AMDAC (MALAYSIA)
Arquus (FRANCE)
BAE Systems Platforms & Services (USA)
Cavalier Group (PAKISTAN)

Centigon France (FRANCE)	Integrated Convoy Protection (SOUTH AFRICA)	Practika (UKRAINE)	Hutchinson Aeroservices (FRANCE)
CIO Consorzio Iveco-Oto Melara (ITALY)	International Armored Group (UAE)	Protolab (FINLAND)	Indian Armour (INDIA)
Czechoslovak Group (CSG) (CZECH REPUBLIC)	Iveco Defence Vehicles (ITALY)	RESENIG Fahrzeugbau (AUSTRIA)	Kembara Suci (KSSB) (MALAYSIA)
Defence Land Systems India (INDIA)	Katmerciler (TURKEY)	Romarm (ROMANIA)	Nexter Systems (FRANCE)
Denel Mechem (SOUTH AFRICA)	Komatsu (JAPAN)	Romtehnica (ROMANIA)	NorcaTec (USA)
Gaia Automotive Industries (ISRAEL)	Krauss-Maffei Wegmann (GERMANY)	SOFRAME (FRANCE)	pewag Austria (AUSTRIA)
General Dynamics European Land Systems (SPAIN)	Lenco Armored Vehicles (USA)	Supacat (UK)	PSV Wipers (UK)
General Dynamics European Land Systems – Mowag (SWITZERLAND)	Mack Defense (USA)	Terem-Khan Krum (BULGARIA)	Rodgard (USA)
General Dynamics European Land Systems – Santa Bárbara Sistemas (SPAIN)	Mahindra Defence Systems (INDIA)	Timoney Technology (IRELAND)	RUD Chain (USA)
General Dynamics European Land Systems – Steyr (AUSTRIA)	Mercedes-Benz Defence Vehicles (GERMANY)	Ural Automotive Plant (RUSSIA)	RunFlat International (UK)
General Dynamics Land Systems – Canada (CANADA)	Military Industrial Company (RUSSIA)	Uzina Automecanica Moreni (ROMANIA)	Tyron Runflat (UK)
General Dynamics UK (UK)	Mitsubishi Heavy Industries (JAPAN)		Valentin Tusch (AUSTRIA)
HSW- Huta Stalowa Wola (POLAND)	Navistar Defense (USA)	Wheels/tyres/tracks	Van Halteren Metaal (NETHERLANDS)
Hyundai Rotem (SOUTH KOREA)	Nexter Systems (FRANCE)	BAE Systems Platforms & Services (USA)	
	NIRON Systems & Projects (ISRAEL)	BC NOR (NORWAY)	
	Nurol Makina ve Sanayi (TURKEY)	Cook Defence Systems (UK)	
	Otokar (TURKEY)	Diehl Defence Land Systems (GERMANY)	
	Paramount Group (SOUTH AFRICA)	Excalibur Army (CZECH REPUBLIC)	
	PGZ (POLAND)	General Dynamics Land Systems (USA)	
	Pindad (Persero) (INDONESIA)	General Dynamics Land Systems – Canada (CANADA)	
		GKN Land Systems (UK)	
			Winches
			BG NOR (NORWAY)
			EKA (UK)
			Marshall Aerospace and Defence Group (UK)
			Master Pull (USA)
			Sepson (SWEDEN)
			Warn Industries (USA)
			Windscreen protection
			International Armored Group (UAE)
			PSV Wipers (UK)
			Showtrax International (UK)
			Transshield (USA)



A British Challenger 2 and a Polish Leopard 2 MBT during Exercise *Black Eagle* in Poland. (Photo: British Army)

SUPPLIERS

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BAE Systems Hägglunds

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Bental Motion Systems

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A British Army Terrier armoured digger, deployed with 5 Rifles battlegroup on Operation Cabrit in Estonia. (Photo: British Army)

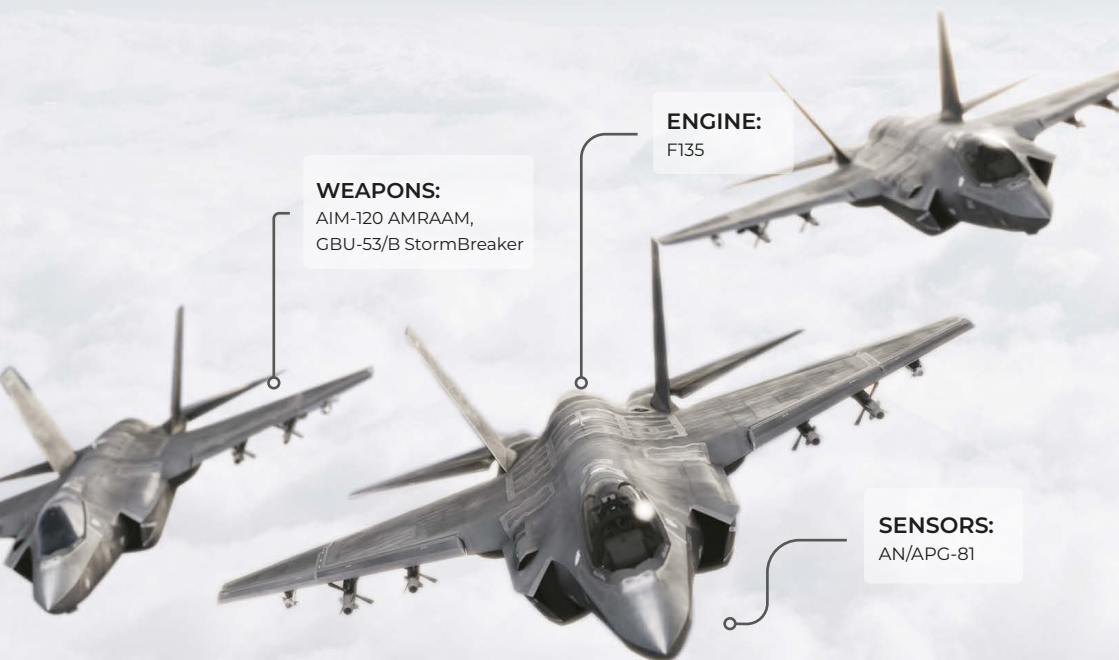
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