



British Army

Vehicles and Equipment



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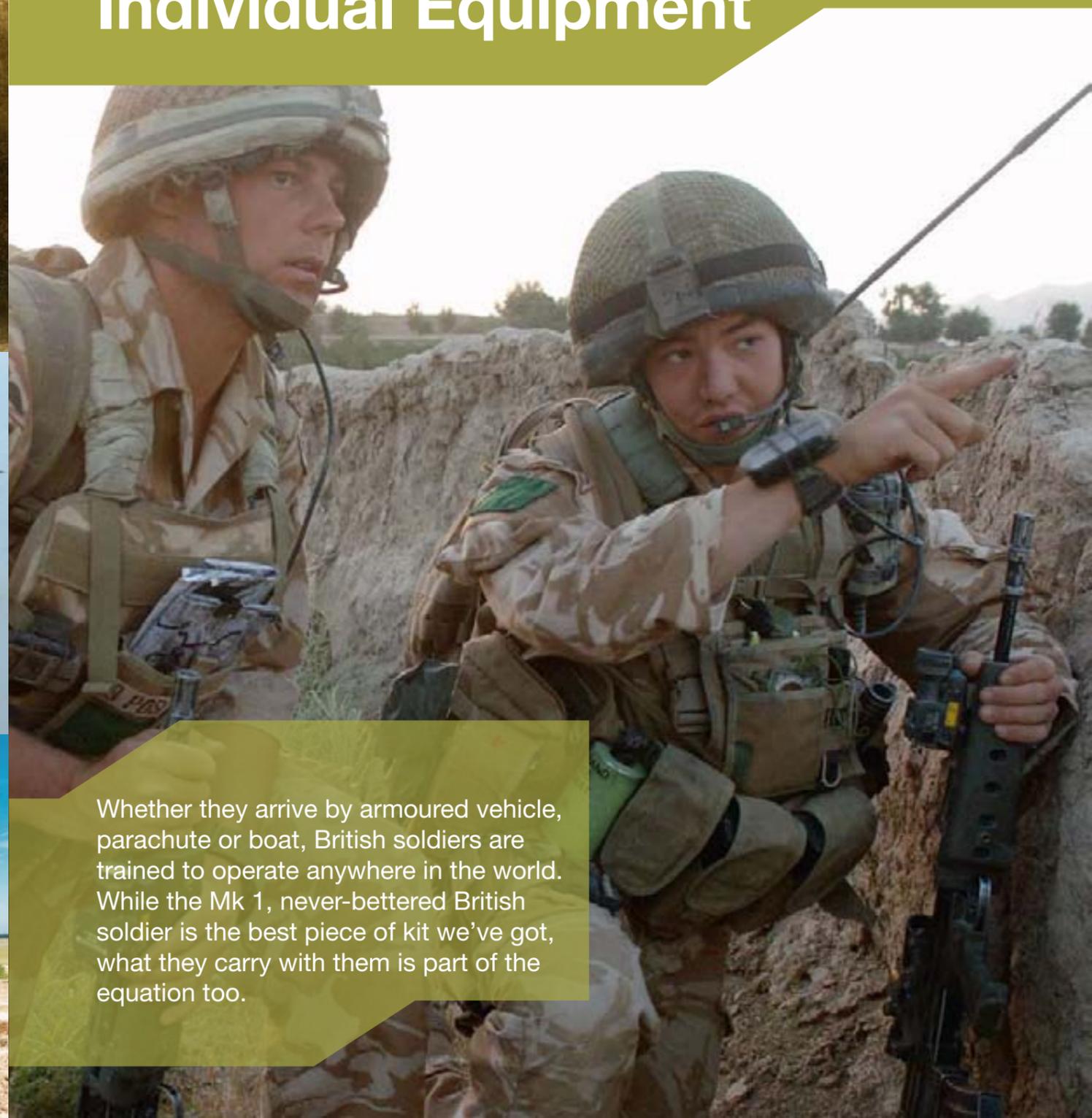
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Small Arms, Support Weapons and Individual Equipment



Whether they arrive by armoured vehicle, parachute or boat, British soldiers are trained to operate anywhere in the world. While the Mk 1, never-bettered British soldier is the best piece of kit we've got, what they carry with them is part of the equation too.

Present day equipment

Head mounted monocular night vision

SUSAT – Sight Unit Small Arms Trilux
(telescopic sight with 4 x magnification)

Personal Role Radio – Allows infantry soldiers
to communicate over short distances, even through
thick cover or walls

Body Armour – Osprey and Kestrel variants offer
additional protection

Patrol vest

SA80 A2 – L85 Individual Weapon –
Rate of fire: 610–775 rounds per minute

Underslung Grenade Launcher

Past equipment

58 Pattern Webbing – canvas pouches
for ammunition and kit

M79 – fires a variety of grenades up to 350 m.
Weighed 2.93 kg loaded. Due to its size and
inability to integrate with the rifle a soldier
had to be designated as the grenadier

Puttees

SLR – Rate of fire: 40 rounds per minute

Personal Role Radio

The Personal Role Radio (PRR) is a small transmitter-receiver that allows infantry soldiers to communicate over short distances.

Effective even through thick cover or the walls of buildings, PRR enables section commanders to react quickly, aggressively and efficiently to rapidly changing situations, including contact with the enemy, greatly increasing the effectiveness of infantry fire teams. PRR is issued to every member of an eight-strong infantry section.

Weight	1.5 kg
Length	380 mm
Battery length	20 hours' continuous use
Range	500 m
Channels	256

Personal Clothing

The Combat 95 clothing system has to satisfy stringent military requirements covering infrared reflection, thermal signature and flame resistance. It is based on the layer principle and is designed to provide the soldier with exactly the right degree of protection for any operational environment. The British soldier can expect to operate in extreme climatic conditions, from the jungles of Belize to the Arctic wastes of Norway. Combat 95 selects the best from developments in extreme sports and expeditionary wear.

Personal Load Carrying Equipment

Soldiers need to carry ammunition, water, food and protective equipment. They use Personal Load Carrying Equipment (PLCE), a tough, modular system of camouflaged belt, yoke and pouches. To this can be added two small rucksacks and a large rucksack for additional carrying capacity, when required.



Personal Protection

Where additional ballistic protection is required, for example on operations, soldiers are issued with Combat Body Armour (CBA), which can be further reinforced with ceramic armour plates (Enhanced Body Armour (EBA)).

The maximum marching load for a fit soldier is approximately 45% of his body weight. With the average soldier's weight standing at 71 kg, the equipment should not weigh more than 32 kg although operational situations may demand that greater loads are carried. A replacement PLCE system will be provided for the Infantry through the Future Integrated Soldier Technology (FIST) programme. Other replacement items, such as EBA/CBA, helmets, hydration and sleeping systems will be provided by the Personal Equipment and Common Operational Clothing (PECOC) programme. In Service Dates (ISD) are yet to be fixed by the Ministry of Defence (MoD). Every soldier has a Mark 6a combat helmet that provides outstanding ballistic protection while allowing the soldier to wear a respirator, ear defenders, goggles and a radio set, as necessary.



SA80 A2 fitted with Underslung Grenade Launcher (UGL)

SA80 is the designation for a revolutionary family of assault weapons. On its introduction, it proved so accurate that the Army marksmanship tests had to be redesigned.

The SA80 Underslung Grenade Launcher (UGL) system consists of a Heckler & Koch AG-36 40 mm grenade launcher and ladder sight fitted to the SA80. It is issued to infantry units on a scale of one per fire team. It will allow the fire team to deliver effective fragmenting munitions out to 350 metres. Advantages of the UGL system are low recoil, ease of use, reduced ammunition weight and the ability to have a chambered grenade at the ready while continuing to fire the SA80.

The system is currently fielded with Practice and High Explosive (HE) ammunition natures. In time, the UGL's ammunition types will be expanded to include illumination and smoke rounds. There will be six UGLs per platoon resulting in greatly increased flexibility and weight of fire. Longer-term enhancements to the system may eventually include a Fire Control System, extended range ammunition and buckshot rounds for close-quarter battle.

	SA80	UGL
Calibre	5.56 mm	
Weight	4.98 kg (with loaded magazine and optical sight)	1.12 kg (6.1 kg combined)
Length	785 mm	
Barrel length	518 mm	
Muzzle velocity	940 m/s	76 m/s
Feed	30-round magazine	
Effective range	400 m	
Cyclic rate of fire	610-775 rpm	5-7 rpm

CO of the Support Weapons School in Warminster, describes the latest weapon as a “huge leap forward”. He says: “It allows us to engage a wider range of targets with increased precision and at greater ranges. It will enhance our capability. We know it is a good weapon as it has already been deployed in theatre.”

L115A3 Long-Range Rifle

Expert marksmen have been so impressed with the latest L115A3 weapon that the Government is ordering nearly 600 of them for operations. The weapon, which is made by Portsmouth-based firm Accuracy International, fires a larger calibre bullet than the existing L96 7.62 rifle.

The L115A3 has a scope that can magnify the target up to 25 times, a suppressor to reduce flash and noise, a folding stock and five-round magazine. With a range of around a mile, the new rifle is being rolled out alongside the broader Sniper System Improvement programme, which is designed to give Army specialists more power, precision and stealth. The scheme will give sharpshooters top-of-the-line, all-weather, day and night sights so they can operate around the clock and in arduous conditions.

Calibre	8.59 mm
Weight	6.8 kg
Length	1,300 mm
Muzzle velocity	936 m/s
Feed	5-round box
Effective range	1,100 m plus

Light Support Weapon

SA80 A2 LSW has a heavier and longer barrel allowing greater muzzle velocity and accuracy than the standard SA80.

When fired from the integrated bipod and using the standard SUSAT sight, LSW is accurate and consistent. It is 95% reliable, better than any of its competitors.

Calibre	5.56 mm
Weight	6.58 kg (with loaded magazine and optical sight)
Length	900 mm
Barrel length	646 mm
Muzzle velocity	970 m/s
Feed	30-round magazine
Effective range	1,000 m
Cyclic rate of fire	610–775 rounds per minute

Light Machine Gun

Developed from the Minimi Light Machine Gun following experience in Iraq and Afghanistan, the LMG is a belt-fed suppression weapon.

It provides the section commander with the capability to impose sustained suppressive fire onto an objective out to 300 m and increases the overall firepower available to the section commander.

The LMG complements the Light Support Weapon and enhances the effectiveness of all section weapons across the spectrum of infantry operations.

Calibre	5.56 mm
Weight	7.1 kg (8.5 kg with 100 rounds)
Length	914 mm
Feed	100-round disintegrating belt
Effective range	800 m
Cyclic rate of fire	700 to 1,000 rounds per minute
Muzzle velocity	875 m/s

General Purpose Machine Gun

The L7A2 General Purpose Machine Gun (GPMG) is a 7.62 x 61 mm belt-fed general purpose machine gun which can be used as a light weapon and in a sustained fire (SF) role.

In the SF role, mounted on a tripod and fitted with the C2 optical sight, it is fired by a two-man team who are grouped in a specialist Machine Gun Platoon to provide battalion-level fire support. In SF mode, the GPMG, with a two-man crew, lays down 750 rounds per minute at ranges up to 1,800 metres.

The GPMG can be carried by foot soldiers and employed as a light machine gun (LMG), although it has largely been replaced by the lighter 5.56 x 45 mm Minimi in this role in most regiments. A fold-out bipod is used to support the GPMG in the LMG role.

Versions of the GPMG are mounted on most Army vehicles and some helicopters.

Calibre	7.62 mm
Weight	13.85 kg (gun plus 50-round belt)
Length	1,230 mm (light role)
Barrel length	629 mm
Muzzle velocity	838 m/s
Feed	100-round disintegrating link belt
Effective range	800 m light role, 1,800 m sustained fire role
Cyclic rate of fire	750 rounds per minute



Heavy Machine Gun

The HMG provides integral close-range support from a ground mount tripod or fitted to a Land Rover using the Weapon Mount Installation Kit (WMIK) and a variety of sighting systems. The performance of the HMG has recently been enhanced with a new 'soft mount' (to limit recoil and improve accuracy) and a quick-change barrel (QCB).

The HMG provides the commander with added capability at greater ranges (1,500–2,000 m) when support from armoured vehicles is not available.

Calibre	12.7 mm
Weight	38.15 kg (gun only)
Length	1,656 mm
Muzzle velocity	915 m/s
Feed	50-round disintegrating belt
Effective range	2,000 m
Cyclic rate of fire	485–635 rounds per minute



LASM

The Light Anti-Structures Missile (LASM) is a UOR which has been fielded to fill a capability gap until Anti-Structure Munition comes into service.

The single-shot weapon consists of a free-flight unguided rocket that is housed within a disposable telescopic launcher. The mechanical, 'pop-up' sight is integral to the weapon and deploys when the launcher is extended, in preparing it to fire.

The rocket consists of a warhead, fuze and propulsion unit. Spring-loaded fins deploy on firing to stabilise the rocket in flight. The rocket uses kinetic energy to penetrate structures before the warhead is allowed to detonate.



Range	Approx. 500 m
Weight	4.3 kg
Length	0.775 m
Firing length	0.98 m
Preparation time	8 seconds

81 mm Mortar

The L16A2 81 mm Mortar is a Battlegroup level indirect fire weapon which is capable of providing accurate High Explosive, smoke and illuminating rounds out to a maximum range of 5,650 m.

The Mortar Platoon in mechanised and armoured infantry battalions are mounted in and fire from its Armoured Personnel Carrier, increasing its mobility, and enabling rapid disengagement and movement to another site.

Calibre	81 mm
Weight	35.3 kg (in action)
Barrel length	1,280 mm
Muzzle velocity	225 m/s
Max. range	5,650 m (HE)
Rate of fire	15 rounds per minute
Bomb weight	4.2 kg (HE L3682)



60 mm Mortar

The Hirtenberger M6-895 60 mm Mortar was procured as an Urgent Operational Requirement (UOR) and is currently in service in Afghanistan as a light capability with the Mortar Platoon. It can be fired in both the direct and indirect fire role at a rate of 1–12 rounds a minute and can be operated in the hand held mode. The 640 60 mm Mortar has been procured as a UOR to replace the current 51 mm Mortar on current operations and will be in service by October 2008.

Base plate weight	4.8 kg
Barrel weight	5.3 kg
Bipod weight	12 kg
Sight weight	3.8 kg
Range	180–3,800 m

Grenade Machine Gun

The Heckler & Koch 40 mm Grenade Machine Gun (GMG) provides unrivalled infantry suppression combining the best characteristics of the heavy machine guns or light mortars usually employed in this role.

Conventional rifle ammunition provides no fragmentation effect, and is largely not effective enough against advancing armoured infantry fighting vehicles and battle tanks. On the other hand, mortars have the disadvantage of a relatively low rate of fire. The GMG combines the advantages of both of these two types of weapons, delivering high flexibility and firepower combined with the fragmentation effect of mortar ammunition.

The GMG is usually mounted on WIMIK (weapons mount installation kit) Land Rovers but can also be used from ground-based tripods.

Rate of fire	340 rounds per minute
Range	1.5 km for point targets 2 km for area cover
Ammunition	40 mm high velocity and high explosive grenades



Javelin

Javelin, the medium-range anti-tank guided weapon replacement for Milan, is an enhanced version of the American weapon proven on operations in Iraq and Afghanistan by US forces.

The UK version has two significant enhancements – a more effective sight system and a tripod (for firing and observation). Javelin provides a step change in dismounted anti-armour and surveillance capability. It delivers longer range, greater lethality, significantly more powerful optics and a lighter load for the Infantryman.

Although designed primarily to destroy tanks and light armoured vehicles, Javelin will also provide a potent, all-weather, day/night capability against fixed defences, such as bunkers and buildings.

The integrated sight allows the firer to acquire the target, lock-on, fire and 'forget'. This means that as soon as the missile is launched, the firer can acquire another target or move position. Javelin has a maximum range of 2,500 m, and an Overfly Top Attack mode and direct attack mode of operation.

Javelin's surveillance and target acquisition performance is as good as all other passive, ground mounted battlegroup surveillance systems.

Javelin is a crew-served weapon operated by a firer and a controller/observer. The controller/observer commands the weapon and assists with loading, identifying targets and battlefield damage assessment.



Armoured Fighting Vehicles

Firepower – mobility – protection: the three key aspects of any fighting vehicle. Challenger 2 Main Battle Tank and the Warrior Infantry Fighting Vehicle boast the highest levels of all three. Whether the primary purpose is an armoured breakthrough or reconnaissance, wheeled and tracked Army vehicles of all sizes are superbly designed to protect our soldiers and defeat the enemy.



Challenger 2

The superb Challenger 2 (CR2) is the British Army's Main Battle Tank. CR2 is based on the Challenger 1 that served with distinction on operations in the Gulf War and the Balkans.

Only 5% of Challenger 2 components are interchangeable with its predecessor; over 150 major modifications include a completely new turret, L30 CHARM 120 mm gun and second generation Chobham armour.

Challenger 2's Thermal Observation and Gunnery Sight (TOGS) displays a magnified image for the commander and gunner. The commander has a gyro-stabilised fully panoramic sight with laser range-finder and thermal imager. The gunner is equipped with a gyro-stabilised primary sight with a laser range-finder and coaxially mounted auxiliary sight. The driver's position has an image-intensifying day and night periscope, and the loader has a day sight.

Crew	4
Length	11.55 m (gun forward)
Width	3.5 m
Height to turret roof	2.49 m
Combat weight	62,500 kg
Main armament	120 mm L30 CHARM (CHallenger main ARMament) Gun
Ammunition	50 rounds – APFSDS, HESH, Smoke (Typical)
Secondary armament	Co-axial 7.62 mm chain gun, 7.62 mm GPMG (turret mounted)
Ammunition	4,000 rounds 7.62 mm
Engine	1,200 bhp Perkins-Condor CV12
Max. speed	59 kph



Warrior

The Warrior Infantry Fighting Vehicle has the speed and performance to keep up with Challenger 2 Main Battle Tanks over the most difficult terrain, and the firepower and armour to support Infantry in the assault.

The Warrior (WR) family of seven variants of armoured vehicles entered service in 1988 and has proved a resounding success for Armoured Infantry Battlegroups in the Gulf War, Bosnia, Kosovo, Iraq and Afghanistan. They provide excellent mobility, lethality and survivability for the Infantry and have enabled key elements from the Royal Artillery and Royal Electrical and Mechanical Engineers (REME) to operate effectively within the Battlegroup. A highly successful armoured fighting vehicle, Warrior can be fitted with Enhanced Armour and is continuously being upgraded. The Battle-group Thermal Imager (BGTI) is being fitted to increase its night-fighting capability and is second to none.

Warrior infantry command and section vehicles carry a turret mounted 30 mm Rarden cannon that will defeat light armoured vehicles out to 1,500 m. An 8x magnification image-intensifying night sight is fitted, and eight 94 mm Light Anti-Armour Weapon (LAW) HEAT rockets can be stowed in the vehicle.

Crew	3 + dismounting section of 7
Dimensions	6.34 m (L) x 2.78 (H) x 3.0 m (W)
Combat weight	24,500 kg
Engine	Rolls-Royce CV8 Diesel
Max. road speed	75 kph
Average speed	40 kph (cross-country)

Warrior variants include artillery observation post vehicle (OPV) and command post vehicle (CPV), and a REME recovery and repair vehicle. All variants are equipped with a 7.62 mm chain gun. Both chain gun and Rarden cannon have an anti-helicopter capability.

The most impressive feature of Warrior is its power. The 550 bhp diesel engine gives a power-to-weight ratio of 23.5 bhp/ton resulting in a road speed of 75 kph and a cross-country speed of up to 50 kph. This is 30% better than the FV432 and with the improved suspension and a lower ground pressure it allows Warrior to keep pace with Challenger 2 across the toughest terrain. Warrior can wade to a depth of 1.3 m.



FV430 Fighting Vehicle Series including Bulldog

The FV430 family of armoured vehicles entered service with the British Army in the 1960s, but regular maintenance and improvements including a new power train have enabled this old workhorse to remain in service into the 21st century.

The FV432 can be converted for swimming, when it has a water speed of 6 km/h. Properly maintained, it is a rugged and reliable vehicle with a good cross-country performance.

FV430 variants remain in service with the Infantry as command vehicles, 81 mm mortar carriers, ambulances and recovery vehicles.

A recent upgrade programme has seen the delivery of over 100 uparmoured and upgraded FV430 troop carriers (Bulldog). Mechanised Infantry use the Bulldog APC as a form of protected mobility to move around the battlefield. Bulldog offers protection against small arms and artillery fire and provides good strategic and cross-country mobility.

Crew	2 (commander and driver)
Troops	10
Dimensions	5.25 m (L) x 2.28 m (H) x 2.8 m (W)
Max. road speed	52 kph
Max. road range	580 km
Fuel capacity	454 litres
Engine	Rolls-Royce K60 No.4 Mark 1-4
Engine power	240 bhp
Armament	1 x 7.62 machine gun 2 x 3-barrel smoke dischargers

For counter-insurgency operations the uparmoured FV430 provides a similar level of protection to Warrior and the vehicle is able to carry out many of the same tasks as Warrior, thereby relieving the pressure on heavily committed Warrior vehicles in armoured infantry battlegroups.

“It is a lot better and I can get a lot more control of the vehicle,” says Bulldog driver Rfn Mark Benger, 4 RIFLES. “As a driver the Bulldog lets you concentrate on actually driving because the commander can spend more time inside the vehicle doing his stuff. I would say that this feature has helped me become much better at it since I got to Iraq.”



Stormer

The tracked Stormer vehicle provides a mobile platform for the Starstreak High Velocity Missile (HVM) system giving the detachment protection and excellent mobility with eight ready-to-fire missiles and a further nine stowed inside.

The HVM system is a low-level Close Air Defence (CAD) system with a rapid engagement capacity developed and optimised to counter the Attack Helicopter threat. This highly flexible system is also capable of being fired using the Lightweight Multiple Launcher or from the shoulder. The missile employs a system of three dart-type projectiles which can make multiple hits on the target. Each of these darts has an explosive warhead.

Weight	13.5 tonnes
Dimensions	5.6 m (L) x 3.4 m (H) x 2.8 m (W)
Range	600 km
Max. speed	80 kph
Trench crossing	2 m

The system is fitted with a roof-mounted Air Defence Alerting Device, providing target detection and prioritisation. A panoramic weapon sight is located at the front right of the vehicle.



Scimitar

The vehicle's exceptionally low ground pressure and small size make it useful where the terrain is hostile and movement difficult. Scimitar carries a 30 mm Rarden cannon for self-defence. It is used by reconnaissance regiments of the Royal Armoured Corps and 'recce' elements of the Armoured Infantry.

Crew	3
Dimensions	4.9 m (L) x 2.1 m (H) x 2.24 m (W)
Ground clearance	0.35 m
Combat weight	8,070 kg
Main armament	1 x 30 mm L21 Rarden cannon
Secondary armament	Co-axial 7.62 mm GPMG, smoke grenades
Ammunition carried	160 rounds of 30 mm, 3,000 rounds of 7.62 mm
Engine	Cummins BTA 5.9, 190 hp diesel engine
Max. speed	80 kph



Spartan and Other CVR(T) Vehicles

A very small Armoured Personnel Carrier, it can carry four men in addition to the crew of three. It is used to carry small specialised groups such as reconnaissance teams, air defence sections and mortar fire controllers.

Samaritan, Sultan and Sampson are also CVR(T) vehicles: Samaritan is an ambulance vehicle, Sultan an armoured command vehicle and Sampson is an armoured recovery vehicle.

Crew	2 + 10 troops
Dimensions	5.16 m (L) x 2.63 m (H) x 2.48 m (W)
Ground clearance	0.33 m (axles)
Combat weight	10,670 kg
Main armament	1 x 7.62 mm GPMG
Engine	164 bhp Bedford 600 6-cylinder diesel (Cummins BT 5.1 fitted to IS variant)
Max. speed	96 kph
Max. range	510 km

Land Rover Snatch-2

Snatch is a Protected Patrol Vehicle, based on a Land Rover Heavy Duty Chassis (similar to WOLF in many respects). There are three variants:

- Snatch-2 12v, LHD with ACU – training variant
- Snatch-2A 24v, RHD with ACU – Rest of World variant – deployed to Iraq and Afghanistan
- Snatch-2B 24v, RHD, no ACU – N. Ireland variant

Snatch was originally procured exclusively for use in Northern Ireland. It is now deployed to other theatres and used for general patrolling in lower threat areas. It can be fitted with Bowman and various ECM suites, being extensively replaced by Vector and Mastiff.

Dimensions	4.8 m (L) x 2.37 m (H) x 2.0 m (W)
Combat weight	3,050 kg
Wheelbase	2.79 m
Turning circle	13.25 m



Vector

Vector is based on a 6 x 6 Pinzgauer chassis and is a Light Protected Patrol vehicle developed for 8-hour patrol missions over varying terrain.

Vector is utilised as a command vehicle and troop carrier and for both urban and rural patrolling. It has the capacity to mount two General Purpose Machine Guns (GPMG) on the roof using Platt Mounts for mobile fire support, if required.

Vector also has a bespoke ambulance variant in order to match the mobility of the convoys the vehicle supports.

Crew	2 + 4
Dimensions	5.3 m (L) x 2.1 m (H) x 1.8 m (W)
Weight	6,600 kg
Engine	VW 5-cylinder Euro 3



Viking

The Viking BVS10 All Terrain Vehicle (Protected) ATV(P) is the third generation of articulated vehicles produced by BAE Systems Hagglunds of Sweden.

The Viking is a follow-on from the BV202 and the BV206. BV stands for 'Bandvagen' in Swedish which means that it is driven via rubber tracks. Viking is an amphibious vehicle deployed via landing craft from ship, and is also fully air transportable by C-130 Hercules or underslung by Chinook.

Dimensions	8.3 m (L) x 2.83 m (H) x 2.75 m (W)
Weight	12,744 kg
Weapons systems	GPMG 7.62 mm HMG 0.5 mm 2 x smoke grenade dischargers
Engine	Cummins 5.9 ltr, 6-cylinder Euro 3 diesel engine
Max. speed	65 kph





Jackal

Jackal is a high mobility weapons platform, with a unique air-bag suspension system allowing rapid movement across varying terrain.

Used for reconnaissance, rapid assault, fire support and convoy protection, the Jackal has the capacity to support itself and its crew over 800 km.

Jackal has a general purpose machine gun (GPMG SF) as crew protection and can carry either heavy machine gun (HMG) or grenade machine gun (GMG) as the main weapon system in the fire support role.

Crew	2 + 1
Dimensions	5.39 m (L) x 1.97 m (H) x 2.00 m (W)
Weight	6,650 kg
Engine	Cummins ISBe Euro3



“Mastiff is an incredible show of force and on our last operation the Taliban couldn’t throw anything back at us. It dominates the high ground, it’s robust, well protected and it’s mobility does scare the enemy as we can move across the land pretty much unhindered.”
Lt ‘Monty’ Beaumont



Mastiff

Mastiff is a heavily armoured, 6 x 6 wheel drive patrol vehicle which carries six people, plus two crew. It is suitable for road patrols and convoys and is the newest delivery in a range of protected patrol vehicles being used for operations.

The vehicles, derived from Cougars used by the American Marines, are six-wheeled mine-protected vehicles which have had around 50 modifications. As well as carrying infantry troops around danger zones with much more protection, they are also used by Royal Engineers and Bomb Disposal Teams.

Incorporating the highest levels of survivability, including such features as a V-shaped steel hull, run-flat tyres, shock-mounted seating and internal spall liners, the blast and ballistic-protective Cougars on which it is based have recently withstood thousands of blast attacks during more than 100,000 days of service in heavy combat conditions.

Mastiff is just one of a whole range of protected vehicles being used on operations including

Dimensions	7.08 m (L) x 2.64 m (H) x 2.53 m (W)
Weight	23,500 kg
Payload	6,350 kg
Armament	7.62 GPMG, 50 mm canon or 40 mm automatic grenade launcher
Max. speed	90 kph

Challenger 2, Viking, Bulldog, Warrior, Vector and Snatch.

These wheeled patrol vehicles have a less intimidating profile than tracked vehicles and give commanders on the ground more options to deal with the threats they are facing. They have Bowman radios and electronic countermeasures, and are fitted with additional armour beyond the standard level to ensure they have the best possible protection.

With a maximum speed of 90 kph Mastiff can be armed with a 7.62 general purpose machine gun, 50 mm cannon or 40 mm automatic grenade launcher.

Panther Command and Liaison Vehicle

The Army and RAF will receive 401 Panther Command and Liaison Vehicles by summer 2009, replacing some of the in-service CVR(T)s, TUMs, Saxon and FV432 vehicles. 1 Mech Bde will be the first formation to receive Panther, followed by Div Troops from 3 (UK) Div, then 4 Mech Bde.

Weighing 7 tonnes, Panther is air transportable, and can be underslung beneath a Chinook helicopter. Panther is armed with a 7.62 mm L7 general purpose machine gun equipped Remote Weapon Station, which can be upgraded to a 12.7 mm/cal weapon if required, and an appropriate day/night sighting

system. The armoured citadel provides crew protection from small-arms fire and Level 3 blast mines.

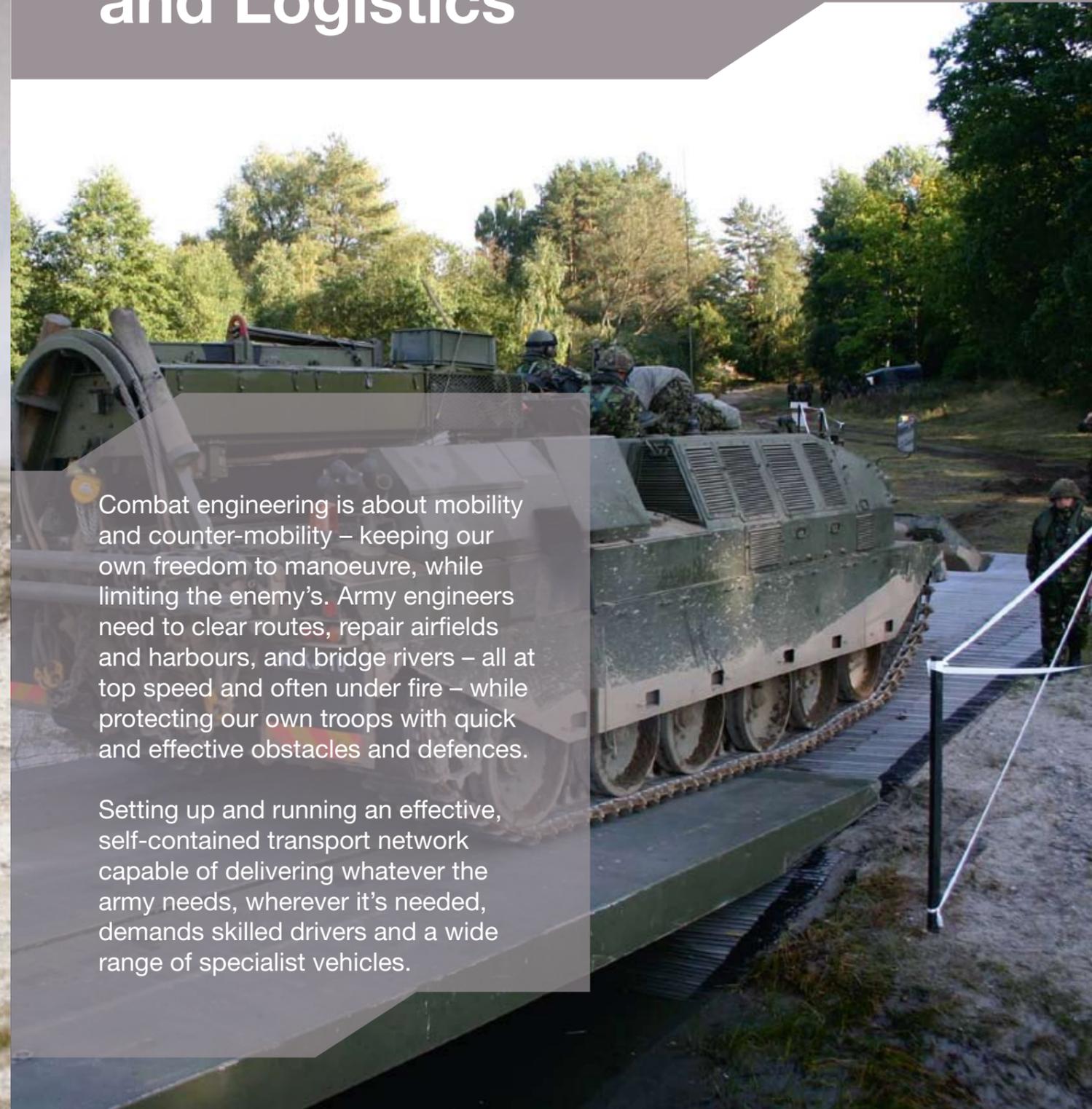
Panther will be in widespread use with Various Commanders, Sergeant Majors, and Liaison Officers for Armoured, Armoured Recce and Armoured Infantry Units. Panther will also be used as the Commander's vehicle for Engineer Troops, Anti-Tank, Mortar and supporting fire platoons. It will be used to rebroadcast on Battlegroup nets and by Regimental Signal Officers.



Engineering and Logistics

Combat engineering is about mobility and counter-mobility – keeping our own freedom to manoeuvre, while limiting the enemy's. Army engineers need to clear routes, repair airfields and harbours, and bridge rivers – all at top speed and often under fire – while protecting our own troops with quick and effective obstacles and defences.

Setting up and running an effective, self-contained transport network capable of delivering whatever the army needs, wherever it's needed, demands skilled drivers and a wide range of specialist vehicles.





M3 Amphibious Bridging Vehicle

The M3 Amphibious Rig can be driven into a river and used as a ferry or, when a number are joined together from bank to bank, as a bridge, capable of taking vehicles as heavy as the Challenger 2 Main Battle Tank.

The M3 has a number of improvements over the M2 which it has replaced (the M2 was in service for over 25 years):

- it can deploy pontoons on the move, in or out of water
- it needs no on-site preparation to enter the water
- it can be controlled from inside the cab when swimming
- its control functions have been automated allowing the crew to be reduced from four to three.

Weight	24.5 tonnes
Dimensions	12.74 m (L) x 3.93 m (H) x 3.35 m (W)
Max. speed	80 kph
Engine	Diesel
Crew	3

A single two-bay M3 can carry a Class 70 tracked vehicle, where two M2s would have been required for this task with additional buoyancy bags. Eight M3 units and 24 soldiers can build a 100 m bridge in 30 minutes compared with 12 M2s, 48 soldiers and a construction time of 45 minutes. The M3 is only 1.4 m longer and 3,300 kg heavier than the M2. It is still faster and more manoeuvrable on land and in water. A four-wheel steering facility gives a turning diameter of 24 m.

Titan

Titan is a new armoured engineer vehicle designed to lay in-service bridges allowing troops and vehicles to cross gaps of up to 60 metres. Along with Trojan it gives a common heavy armoured engineer fleet.

Titan can carry and lay the current range of in-service close support bridges, providing ground manoeuvre formations with improved capability, giving them greater flexibility.

Improved visibility is achieved by incorporating direct and indirect vision systems including low light, image intensifying and thermal imaging capabilities. The interior, and to some extent the exterior, of the vehicles have been designed around the crew station positions.

Titan has the flexibility to support a wide range of operations, including humanitarian missions.

Weight	62,500 kg
Carries	BR-90 Close Support Bridges: No. 10 (length 26 m, span 21–24.5 m); No. 11 (length 16 m, span 14.5 m); and No.12 (length 13.5 m, span 12 m)
Road speed	59 kph
Road range	450 km
Engine	Perkins CV12 diesel engine, David Brown TN54 enhanced low-loss gearbox and the OMANI cooling group: Auxiliary Power Unit (APU) is also fitted
Engine power	1,200 bhp
Crew	3
Armament	Stowage for crewman-portable light anti-tank weapons, fitted with NBC protection system





Shielder

The Shielder Anti-Tank System gives commanders the facility to create anti-tank barriers quickly and effectively.

The system consists of modular dispensers which can be fired to either side or to the rear, mounted on a flat bed version of the Stormer Armoured Personnel Carrier.

The anti-tank mines have a programmable life, at the end of which they self-destruct.

Shielder will only lay anti-tank mines – the British Army does not use anti-personnel mines. These mines are carried in canisters (each of which holds six mines), with up to 40 canisters on a launcher rack. These are on the rear of the Stormer flatbed and discharge the anti-tank mines to either side as the vehicle moves across the terrain. A dispenser control unit provides fire signals, testing and arming of the self-destruct mechanism.

Challenger Armoured Repair and Recovery Vehicle

The Challenger Armoured Repair and Recovery Vehicle (CRARRV) is a highly evolved armoured vehicle designed to recover and repair damaged tanks on the battlefield.

The vehicle has two winches (main and auxiliary) and an Atlas hydraulically operated crane capable of lifting a complete Challenger 2 power pack.

Crew	3 + 2
Dimensions	9.61 m (L) x 3.13 m (H) x 3.62 m (W)
Ground clearance	0.5 m
Combat weight	61,200 kg
Armament	1 x 7.62 mm GPMG, smoke dischargers
Max. crane lift	6,500 kg at 4.9 m reach
Engine	1,200 bhp Perkins-Condor CV12
Max. speed	59 kph
Cross-country speed	40 kph



BR90 Bridging

The Royal Engineer BR90 family of bridges are built from a range of seven modular panels of advanced aluminium alloy fabrication, interchangeable through the various bridge types, to form two interconnecting trackways with a 4 m overall bridge width and a 1 m girder depth.

Close Support Bridge – Consists of three tank-launched bridges capable of being carried on a Tank Bridgelayer and a Tank Bridge Transporter truck.

There are three basic Tank Launched Bridges (also known as Close Support or Assault Bridges): the No 10, No 11 and No 12.

General Support Bridge – This system utilises the Automated Bridge Launching Equipment (ABLE) that is capable of launching bridges up to 44 m in length.

The ABLE vehicle is positioned with its rear pointing to the gap to be crossed and a lightweight launch rail extended across the gap. The bridge is then assembled and winched across the gap supported by the rail, with sections added until the gap is crossed. Once the bridge has crossed the gap the ABLE launch rail is recovered. A standard ABLE system set consists of an ABLE vehicle and 2 x TBT carrying a 32 m bridge set. A 32 m bridge can be built by 10 men in about 25 minutes.

Spanning Systems – There are two basic spanning systems. The long-span system allows for lengthening a 32 m span to 44 m using ABLE and the two span system allows 2 x 32 m bridge sets to be constructed by ABLE and secured in the middle by piers or floating pontoons, crossing a gap of up to 60 m.



Terrier

Terrier is a highly mobile general support engineer vehicle optimised for battlefield preparation in the indirect fire zone.

It will replace the existing Combat Engineer Tractor (CET) from 2011, providing mobility support (obstacle and route clearance), counter-mobility (digging of anti-tank ditches and other obstacles) and survivability (digging of trenches and Armoured Fighting Vehicle slots). Terrier will be faster and more mobile and will have more effective armour and mine protection than the CET.

Terrier is operated by a crew of two or may be operated remotely in particularly hazardous environments. The vehicle can also tow a trailer carrying fascines, trackway and the Python minefield breaching system, clear scatterable mines, remove or enhance obstacles and establish routes while keeping pace with other armoured vehicles such as the Challenger 2 Main Battle Tank and the Warrior Infantry Fighting Vehicle.

Terrier is fitted with day and night vision systems and is air-portable.



C Veh PFI

The C Vehicle fleet comprises earthmoving plant, Engineer Construction Plant (ECP) and rough terrain Materials Handling Equipment (MHE) in use across Defence.

There are currently almost 2,500 pieces of equipment, of 163 types, capable of undertaking a wide range of combat support, logistic and construction tasks. While some of the equipment is held in unit lines, most of it is held in specialist pools with other types hired on an ad hoc basis. The equipment is dispersed worldwide and held at varying degrees of readiness. Some of the fleet has been adapted for military use although the majority of equipment is broadly comparable with that in use in the commercial sector.

The C Vehicle PFI delivers the required capability to units when they need it, where they need it and for as long as they need it. Equipment is delivered serviceable and ready to use and will be more effectively sustained with a complete contractor logistic support package that lies within the bounds of the Support Solutions Envelope (SSE). When the equipment is no longer required it is handed back to ALC, the Service Provider.

Trojan

Trojan is a new armoured engineer vehicle designed to breach complex battlefield obstacles and clear a path through minefields.

Standard equipment includes a dozer blade, mineplough and excavator arm. Along with Titan it gives a common heavy Armoured Engineer fleet.

A Full-Width Mine Plough can be mounted at the front to clear mines and a marking system can also be fitted. It can also carry fascines to drop into ditches and tow a trailer-mounted rocket-propelled mine-clearing system.

Improved visibility is achieved by incorporating direct and indirect vision devices with low light, image intensifying and thermal imaging capabilities. The interior, and to some extent the exterior, of the vehicles have been designed around the crew station positions.

Weight	62,500 kg
Max. road speed	59 kph
Road range	450 km
Engine	Perkins CV12 diesel engine, David Brown TN54 enhanced low-loss gearbox and the OMANI cooling group. Auxiliary Power Unit (APU) is also fitted
Engine power	1,200 bhp
Crew	3
Armament	1 x 7.62 mm machine gun, stowage for crewman-portable light anti-tank weapons, fitted with NBC protection system

Trojan has the flexibility to support a wide range of operations, including humanitarian missions.



Python

Python is a highly effective minefield breaching system which has been successfully tested with the British Army. It replaces the ageing Giant Viper, which dates back to the 1950s, and has the ability to clear a much longer 'safe lane' than its predecessor. It is also faster into action and far more accurate. It can clear a path 230 m long and 7 m wide through which vehicles are safe to pass.

The system works by firing a single rocket from a newly designed launcher mounted on a trailer which has been towed to the edge of the mined area.

Attached to the rocket is a coiled 230 m long hose packed 1.5 tonnes of powerful explosive. After the hose lands on the ground it detonates and destroys or clears over 90% of mines along its entire length.

Trailer weight	136 kg
Hose length	230 m
Cleared zone	180 m x 7.3 m



Support Vehicles

The family of Support Vehicles built by MAN Truck and Bus UK Ltd will, over the next ten years, gradually replace all 4 Tonne, 8 Tonne and 14 Tonne cargo vehicles.

They will primarily be used in the same roles as the current fleet of cargo vehicles. However, they will provide far greater mobility and have the ability to be fitted with increased armour, dependent on the operational threat at the time. The cab can be fitted with a 7.62 mm machine gun.

Variants being introduced:

- 6 Tonne (Medium Mobility)
- 9 Tonne (Medium Mobility and Improved Medium Mobility)
- 15 Tonne (Medium Mobility)
- Unit Support Tanker (Medium Mobility and Improved Medium Mobility)
- Recovery Vehicle

“This milestone represents a significant achievement and is further evidence of how hugely successful the Support Vehicle Programme is, delivering 7,285 new military vehicles under our £1.3bn procurement programme.”

**Minister for Defence Equipment and Support
Rt. Hon. Baroness Ann Taylor**



All-Terrain Mobility Platform

The All-Terrain Mobility Platform (ATMP) 'Supacat' is a versatile, lightweight load-carrying vehicle used by airborne and air-mobile battalions.

Amphibious, and with a very low ground pressure, the ATMP's six wheels allow it to cross rough terrain and water obstacles.

Used for re-supply, casualty evacuation, radio rebroadcast and refuelling, ATMP can carry a single NATO standard pallet, ammunition, anti-tank mines and other bulky or heavy stores.

It can be fitted with a General Purpose Machine Gun (SF) to provide mobile fire support.

Crew	2 + 8 troops
Dimensions	3.44 m (L) x 1.85 m (H) x 2.03 m (W)
Engine	Caterpillar C-18 – 700 bhp
Weight	2,000 kg (ATMP Mk2) (Laden)
Engine	VW ADE 1.9 turbocharged diesel



Heavy Equipment Transporter (HET)

Tank Transporters or Heavy Equipment Transporters are capable of pulling an immobilised tank on board, and can carry 70-tonne Main Battle Tanks.

The HET can move its load rapidly and cost-effectively, saving wear and tear on the tracks and the roads.

The HET is the most powerful tank transporter in production. It consists of an Oshkosh 1070F 8 x 8 tractor truck and a King Trailer GTS 100 seven axle semi-trailer. Its after-cooled Caterpillar C18 turbocharged diesel engine develops 700 bhp.

Crew	2 + 10 troops
Dimensions	20 m (L) x 3.8 m (H) x 2.9 m (W)
Engine	Caterpillar C-18 – 700 bhp
Load capacity	72 tonnes (1 x Main Battle Tank or 2 x Light Armoured Vehicles)
Weapons	Tractor unit can be fitted with 7.62 mm machine gun
Range	300 miles



SSgt 'Smudge' Smith, RLC confirms that the fleet would be a great asset to the Army on operations. “These SVs beat existing transport built in the 70s hands down. They are bang up to date. You put the vehicle in drive, push the buttons on the dashboard and it is in your control. To combat driver fatigue, the cab is quieter and more comfy with space for three people on proper seats. The cruise control is quite good and the air conditioning is a priority for Operations Herrick and Telic.”

Demountable Rack Offload and Pickup System

Demountable Rack Offload and Pickup System (DROPS) vehicles form the logistic backbone of the British Army.

There are two types of vehicle – the Leyland Medium Mobility Load Carrier (MMLC) and the Foden Improved Medium Mobility Load Carrier (IMMLC). DROPS has the ability to tow the long-wheelbase trailer which is a force multiplier as it means it can carry two loads using only one driver.

Both trucks are 8 x 6 load carriers with a 15-tonne flatrack payload, allowing the rapid loading and unloading of flatracks or containers.

Weight (kerb)	14,040 kg
Weight (laden)	32,000 kg (MMLC), 32,960 kg (IMMLC)
Dimensions	9.11 m (L) x 3.18 m (H) x 2.5 m (W)

IMMLC is used primarily as an ammunition carrier in support of AS90 155 mm self-propelled guns. MMLC operates solo, or towing a skeleton trailer.

It is anticipated that the operational DROPS vehicles will be replaced by the Enhanced Pallet Load System (EPLS) which will be based on the 15 tonne SV variant.



Land Rover Battlefield Ambulance

The Land Rover Battlefield Ambulance is based on the TUM chassis. It has a capacity for a combination of up to four stretcher cases or six seated casualties and provides a very high standard of medical facilities. It is air portable and meets amphibious requirements.

Weight	3.7 tonnes (laden)
Dimensions	3.72 m (L) x 1.99 m (H) x 1.79 m (W)
Payload	1.2 tonnes
Fuel capacity	82 litres
Engines	2.495 litre 4-cylinder (in line water cooled; indirect injection; turbo injection)



Close Support Tanker

Oshkosh Wheeled Tanker comes in three variants: a 15,000-litre Tactical Air Refueller, a 20,000-litre Close Support Tanker (Fuel) and an 18,000-litre Close Support Tanker (Water). The Wheeled Tanker is a highly mobile vehicle that is deployed in the Logistic Support Regiments and Transport Regiments and forms the backbone of the British Army's bulk fuel and water transportation. It has deployed on operations in Iraq and Afghanistan and can be fitted with enhanced blast-proof armour for driver and crew protection.

Dimensions	15 m (L) x 3.5 m (H) x 2.5 m (W)
Engine	11.9-litre Caterpillar C-12 producing 445 bhp
Load capacity	20,000 litres of fuel or 18,000 litres of water
Weapons	Tractor unit can be fitted with a 7.62 mm machine gun



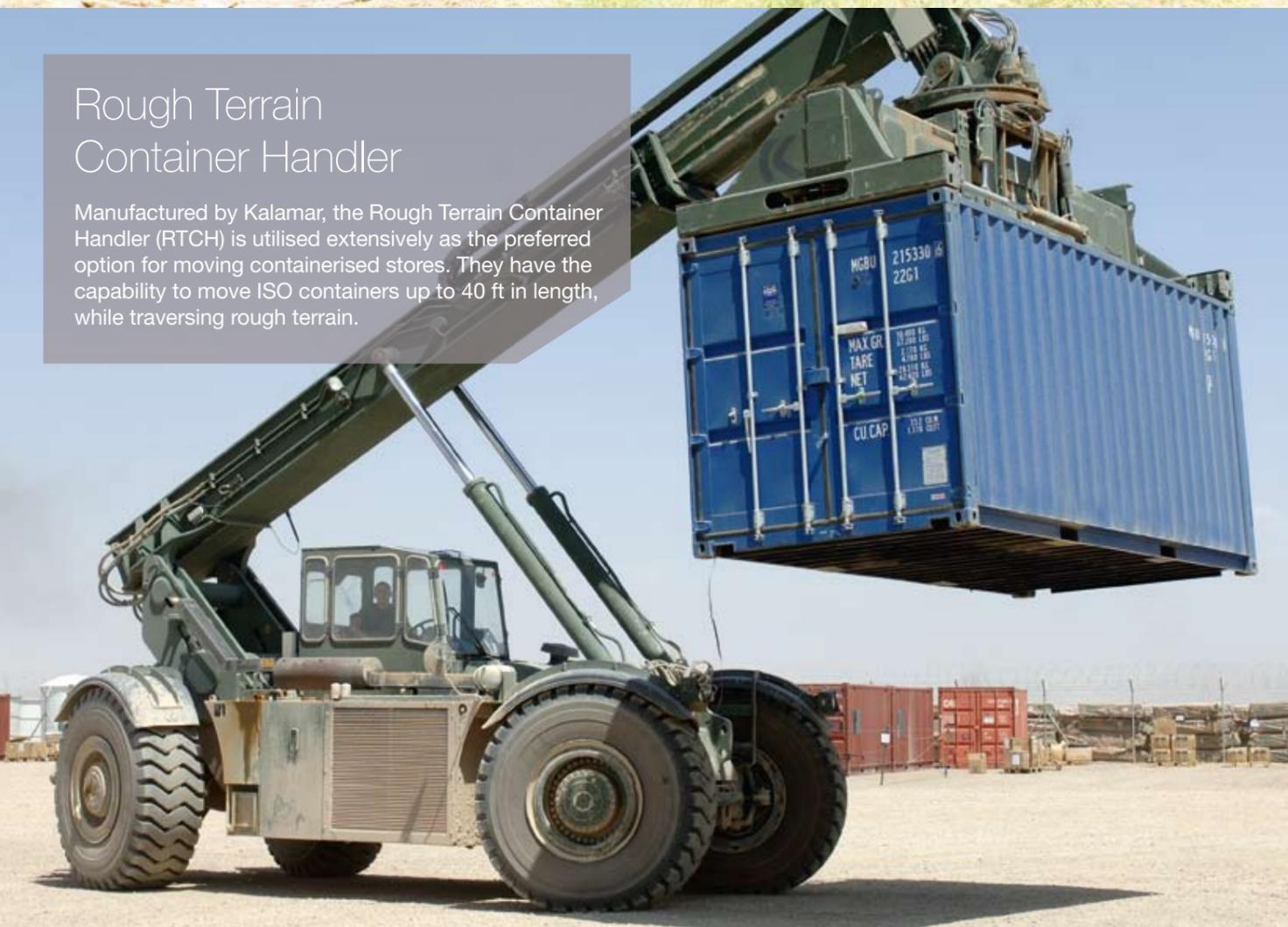


Motorcycles

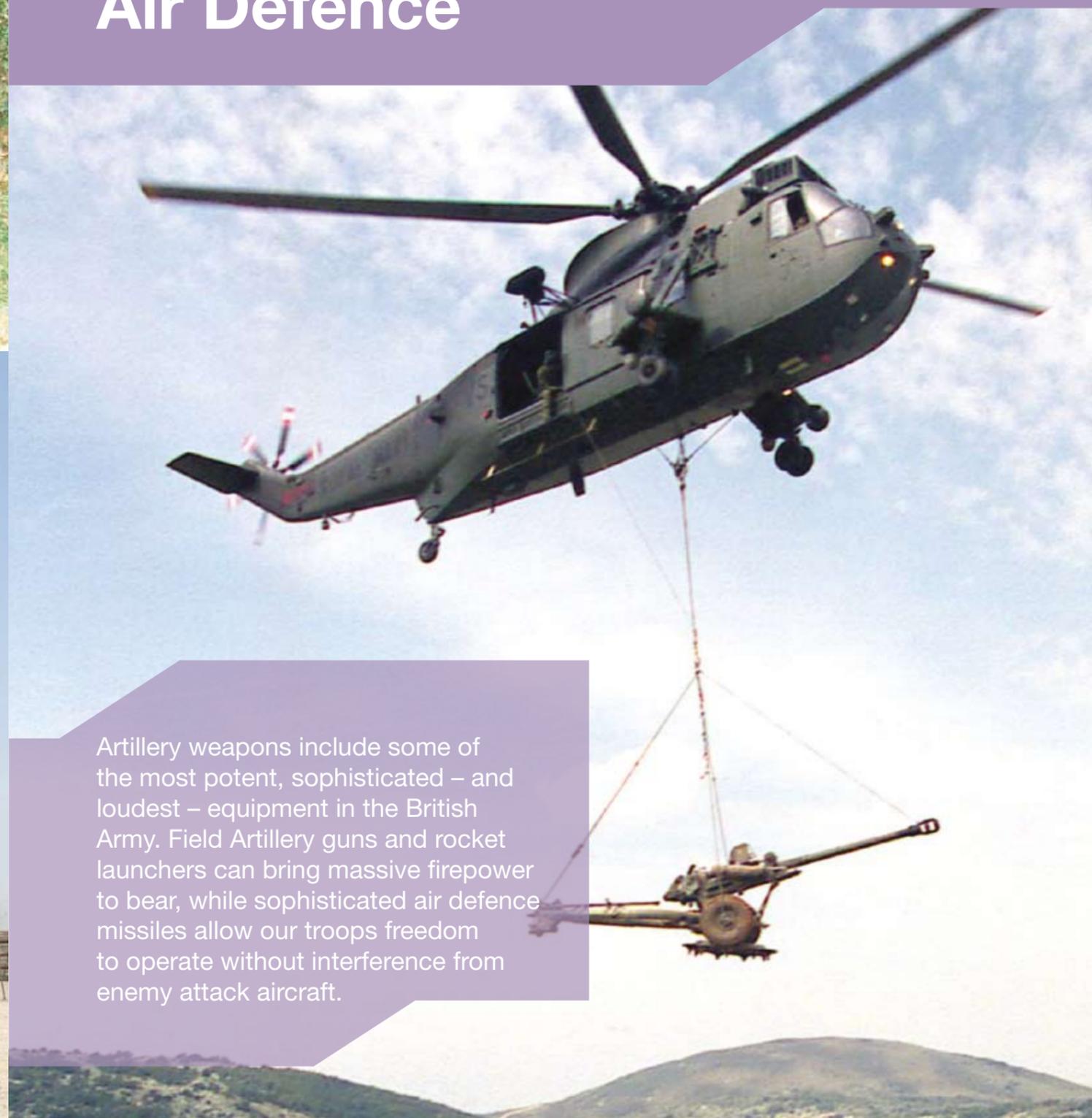
The Harley-Davidson MT350E and Honda R250 are used by Army dispatch riders and for a variety of liaison and traffic control tasks. The bikes are fitted with document panniers and a carrier for the SA80A2 Individual Weapon.

Rough Terrain Container Handler

Manufactured by Kalamar, the Rough Terrain Container Handler (RTCH) is utilised extensively as the preferred option for moving containerised stores. They have the capability to move ISO containers up to 40 ft in length, while traversing rough terrain.



Artillery and Air Defence



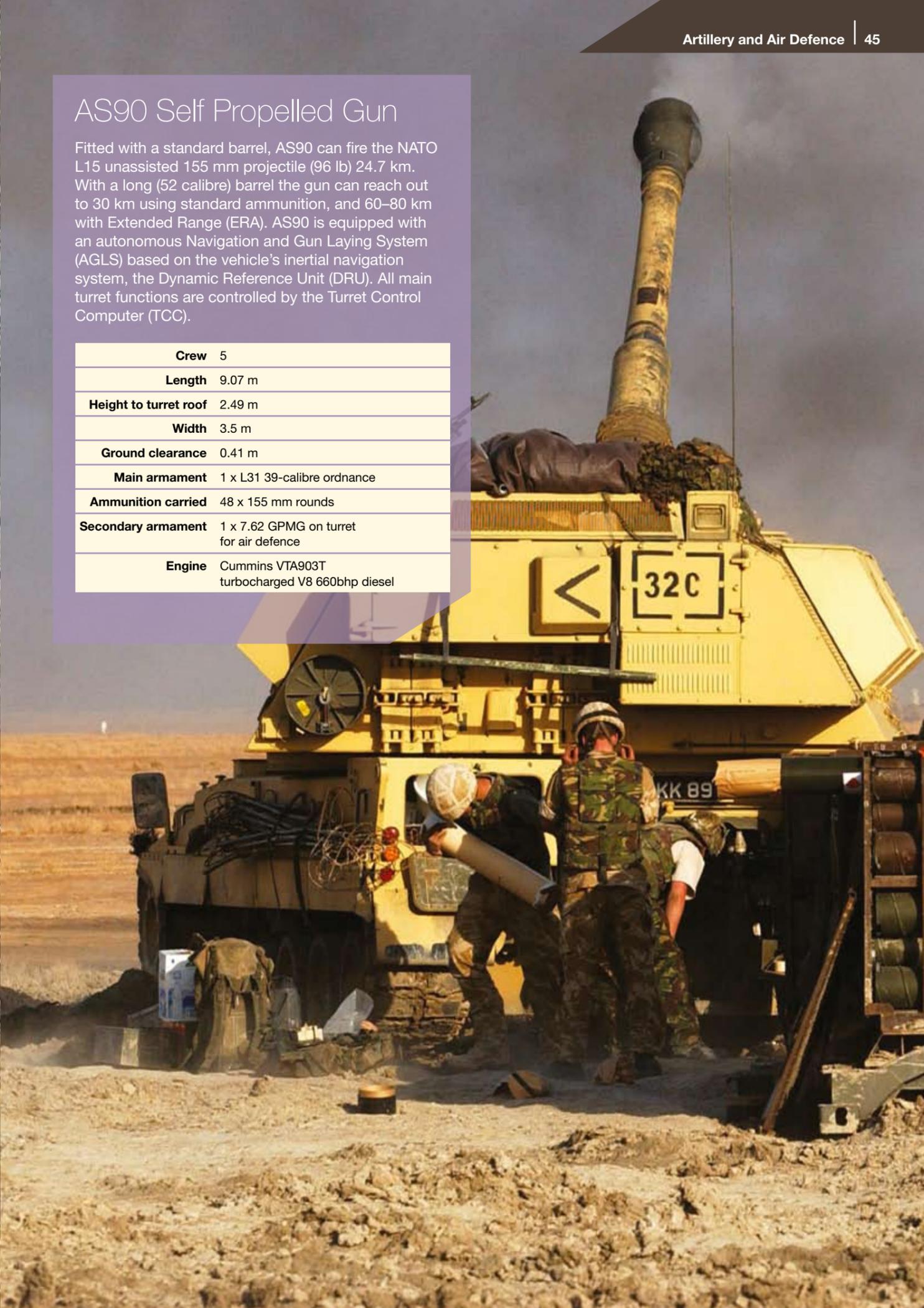
Artillery weapons include some of the most potent, sophisticated – and loudest – equipment in the British Army. Field Artillery guns and rocket launchers can bring massive firepower to bear, while sophisticated air defence missiles allow our troops freedom to operate without interference from enemy attack aircraft.



AS90 Self Propelled Gun

Fitted with a standard barrel, AS90 can fire the NATO L15 unassisted 155 mm projectile (96 lb) 24.7 km. With a long (52 calibre) barrel the gun can reach out to 30 km using standard ammunition, and 60–80 km with Extended Range (ERA). AS90 is equipped with an autonomous Navigation and Gun Laying System (AGLS) based on the vehicle's inertial navigation system, the Dynamic Reference Unit (DRU). All main turret functions are controlled by the Turret Control Computer (TCC).

Crew	5
Length	9.07 m
Height to turret roof	2.49 m
Width	3.5 m
Ground clearance	0.41 m
Main armament	1 x L31 39-calibre ordnance
Ammunition carried	48 x 155 mm rounds
Secondary armament	1 x 7.62 GPMG on turret for air defence
Engine	Cummins VTA903T turbocharged V8 660bhp diesel



Starstreak High Velocity Missile

The Starstreak HVM (High Velocity Missile) is designed to counter threats from very high performance, low-flying aircraft and fast 'pop-up' strikes by helicopter attacks.

The missile, which travels at more than three times the speed of sound, uses a system of three dart-like projectiles, allowing multiple hits on the target. HVM can be fired from the shoulder, from a lightweight multiple launcher or from the Stormer armoured vehicle.

Detachment	4
Missile range	Min. 1,500 m Max. 5,500 m
Flight time	8 seconds
Guidance	Semi-Automatic Line of Sight Beam Riding
Time into action	SP – less than 10 seconds to 10 minutes. LML – 2 minutes. Single missile – less than 10 seconds
Ceiling	1,000 m
Missile speed	Mach 3

L118 Light Gun

The versatile 105 mm Light Gun is used by the Parachute and Commando Field Artillery Regiments of the British Army.

The Light Gun can be towed by a medium-weight vehicle (such as a Pinzgauer TUM/HD or Hagglund BV206 all-terrain vehicle) or carried around the battlefield underslung by a Puma or Chinook helicopter.

Royal Artillery L118 Light Guns are fitted with an Automatic Pointing System, which enables the gun to be unlimbered and in action in 30 seconds. APS is based on an inertial navigation system; operated via a touch screen, it replaces the traditional dial sight. New Light Gun ammunition is in development, with an increasingly lethal round and an extended range.

Crew	6
Length (gun forward)	8.8 m
Height	2.13 m
Width	1.78 m
Combat weight	1,858 kg
Ammunition	HE, Smoke, Illuminating, Target Marking
Max. range	(HE) 17.2 km
Shell weight	(HE) 15.1 kg



GMLRS

The state-of-the-art Guided Multiple Launch Rocket System (GMLRS), nicknamed the '70 km Sniper', provides pinpoint accuracy delivering a 200 lb high explosive warhead to its target, with twice the range of other artillery systems used by the British Army.

The Royal Artillery's newest long-range precision land attack rocket is currently in use on operations in southern Afghanistan following a series of successful trials last year.

Deployed in several locations throughout Helmand province, the Global Positioning System (GPS) guided rockets contain the latest advanced computer technology giving them unsurpassed accuracy. The system takes far fewer rockets to defeat targets, while also reducing the risk of collateral damage.

The weapon system is manned by a small crew of three Gunners and is mounted on a tracked armoured launcher, which is highly robust and manoeuvrable.

The launcher easily copes with the harsh environment and challenging terrain found in southern Afghanistan and has been used to target enemy bunkers in southern Helmand. GMLRS is ideally suited to destroying this type of enemy position and a single missile can be used, whereas in the past conventional artillery may have required multiple rounds.



Capt Frank Mann, QM (Tech) says: "To have a weapon system like GMLRS on standby with a flight time of a couple of minutes, able to fire over enormous ranges, with extreme precision and relatively low collateral damage, engaging a target with a single warhead is a completely new capability. This is an awesome piece of kit – a battle-winning weapon and something we have never had in our armoury before."

Rapier

Rapier Field Standard C is a technologically advanced Short-Range Air Defence System (SHORAD).

It is a 24-hour, all-weather guided weapon system with a primary role of providing limited area Air Defence (AD) cover against fixed wing aircraft, helicopters, Unmanned Air Vehicles (UAV) and cruise missiles. It has the capability of engaging two targets at once. Rapier FSC is compact, mobile and air portable, making it suitable for worldwide operations.

Missile length	2.35 m
Missile diameter	0.133 m
Missile range	500 m (max.) to 8 m (min.)
Motor	Solid fuelled
Missile speed	Mach 2+
Launch weight	42 kg
Radar height	3.37 m (in action)
Radar range	16 km
Radar weight	243 kg

Surveillance and Communication Equipment

Knowledge is power – especially on the battlefield. IT and communication specialists work together to provide a robust communications and surveillance network in order to ensure commanders on the ground can communicate and have full visibility of the battlespace.





Bowman

Bowman is a new tactical communications system designed to exploit the latest developments in radio and computer technology to meet the needs for all three Services well into the 21st century.

The Bowman family of digital radios will enable the transmission of large quantities of electronic digital data and will also provide information on the position of UK Forces. The Combat Infrastructure Platform (CIP) will replace and automate many existing manual processes for command and control on the battlefield.

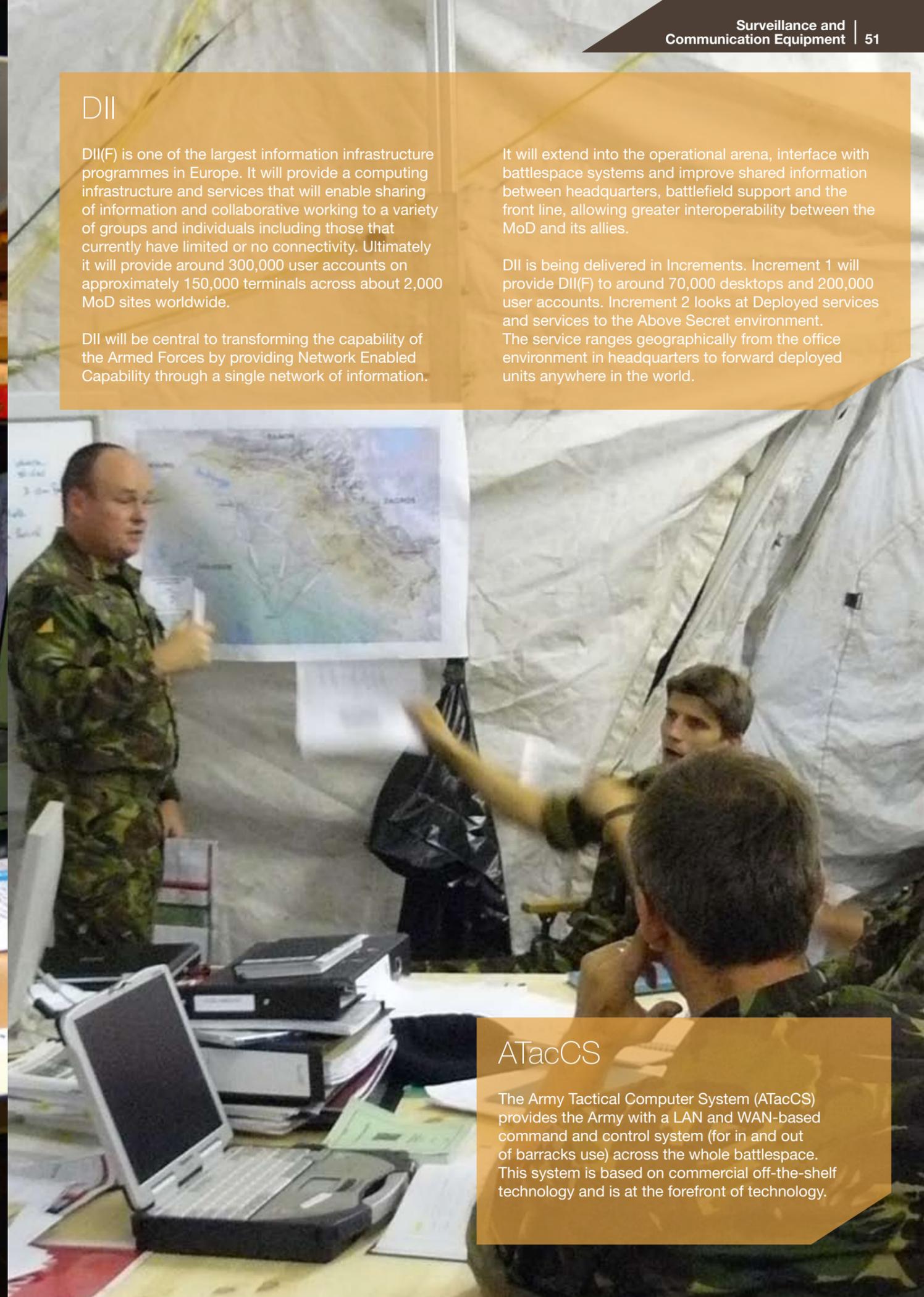
DII

DII(F) is one of the largest information infrastructure programmes in Europe. It will provide a computing infrastructure and services that will enable sharing of information and collaborative working to a variety of groups and individuals including those that currently have limited or no connectivity. Ultimately it will provide around 300,000 user accounts on approximately 150,000 terminals across about 2,000 MoD sites worldwide.

DII will be central to transforming the capability of the Armed Forces by providing Network Enabled Capability through a single network of information.

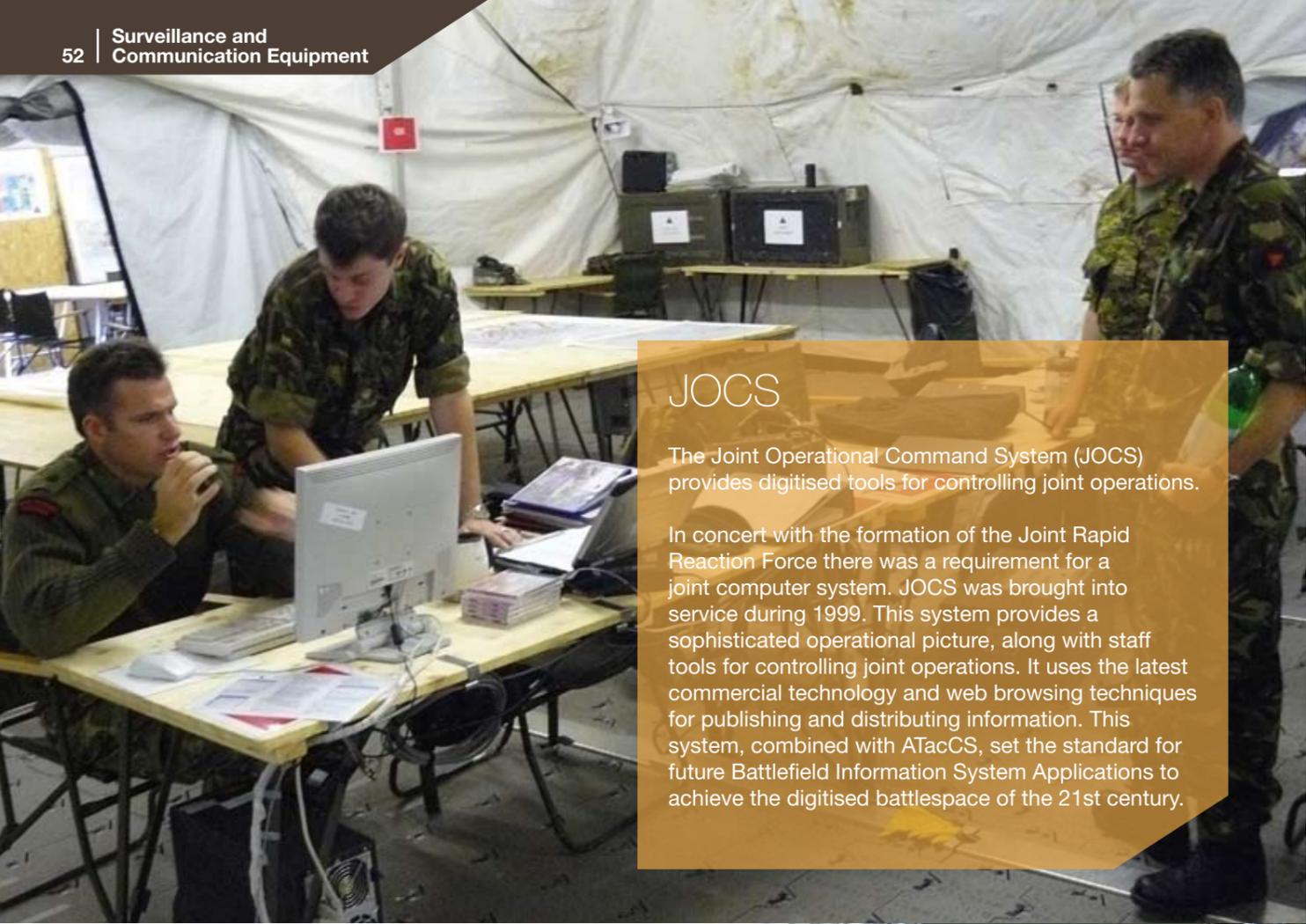
It will extend into the operational arena, interface with battlespace systems and improve shared information between headquarters, battlefield support and the front line, allowing greater interoperability between the MoD and its allies.

DII is being delivered in Increments. Increment 1 will provide DII(F) to around 70,000 desktops and 200,000 user accounts. Increment 2 looks at Deployed services and services to the Above Secret environment. The service ranges geographically from the office environment in headquarters to forward deployed units anywhere in the world.



ATacCS

The Army Tactical Computer System (ATacCS) provides the Army with a LAN and WAN-based command and control system (for in and out of barracks use) across the whole battlespace. This system is based on commercial off-the-shelf technology and is at the forefront of technology.



JOCS

The Joint Operational Command System (JOCS) provides digitised tools for controlling joint operations.

In concert with the formation of the Joint Rapid Reaction Force there was a requirement for a joint computer system. JOCS was brought into service during 1999. This system provides a sophisticated operational picture, along with staff tools for controlling joint operations. It uses the latest commercial technology and web browsing techniques for publishing and distributing information. This system, combined with ATacCS, set the standard for future Battlefield Information System Applications to achieve the digitised battlespace of the 21st century.



MSTAR

MSTAR is a lightweight all-weather battlefield radar, able to detect helicopters, vehicles and infantry to a range in excess of 20 km.

Powered by a standard Army field battery, MSTAR is used by artillery Observation Parties (OPs) to detect where artillery shells are landing in relation to the target (fall of shot).

The electro-luminescent display shows ground that cannot be seen (dead ground) and the lay of the land (relief) and can visibly represent the past movements of the enemy (target track history).

The 30 kg radar can also be mounted in a vehicle, such as the Warrior Observation Post Vehicle (Warrior OPV).

Detection range	100 km to 30 km
Surveillance sector	196 to 6,400 mils
Acquisition sector	196 to 710 mils
Weight	35.5 kg (unpacked) 55.5 kg (bagged) 97.7 kg (boxed)

MAMBA

The MAMBA Weapon Locating Radar is an air portable, small and accurate system and is currently deployed with 5 Regt RA.

MAMBA automatically detects, locates and classifies multiple artillery, rockets and mortars and carries out a threat assessment based on weapon or impact positions.

Detachment	8
Detection range	30 km
Time into action	5 minutes
Accuracy	Below 15 km: 50 CEP 15 to 20 km: 100 CEP Above 20 km: 0.35% of range to target
Ability	Locate a maximum of eight targets simultaneously
Target capacity	100 per minute



Skynet 5

With the diverse range of military operations and the information required in today's digital environment, satellite communications (SATCOM) are playing a vitally important role in providing and sharing instantaneous voice and data between ground, sea and air platforms.

Skynet 5 provides all three Services of the UK Armed Forces with next generation military SATCOM services. It is delivering flexible, robust and fully integrated services, exploiting advances in technology to improve reliability, survivability and security.

The Skynet 5 satellites are capable of beaming communications signals between headquarters in the UK and British forces deployed around the world. It is also being used in the field of welfare services, to help provide free messages between service personnel on operations and their families and friends.

Skynet 5A was the first satellite of the constellation to be launched, in March 2007, followed by Skynet 5B in November 2007. Skynet 5C, launched in April 2008, will be the in-orbit 'reserve'. The system replaced Skynet 4, which had been the UK Armed Forces' primary long-haul communications capability for some 15 years.

Reacher

Reacher is the new mobile X-Band satellite ground terminal (SGT) designed to replace all medium and large legacy SGTs used in the land environment.

It comes in three variants: Reacher Large, Reacher Medium and Reacher Royal Marine (RM).

Reacher Medium is mounted on a MOWAG Duro III 6 x 6 vehicle and provides an assured data rate of 2 Mb/s through a 2.4 m antenna.

Reacher Large, also mounted on a MOWAG Duro III, provides an assured data rate of 8 Mb/s through a 4.5 m antenna.

Reacher RM is mounted on two BV206 vehicles and provides an assured data rate of 2 Mb/s through a 2.4 m antenna.

All Reacher terminals are transportable using Chinook helicopters (underslung). The Large variant can be transported by C17 and the Medium and RM variants by C130.

Aircraft

Yes, the Army has aircraft – enabling our soldiers to carry out vital roles including reconnaissance and evacuating casualties, as well as troop transport and high-tech anti-tank combat. Apache is probably the most sophisticated piece of equipment available to front-line troops in the world.



Apache AH Mk 1

The Apache is the only attack helicopter currently in service with the British military.

Designed to hunt and destroy tanks, this extremely advanced helicopter has significantly improved the Army's operational capability. It can operate in all weathers, day or night, and detect, classify and prioritise up to 256 potential targets in a matter of seconds. It carries a mix of weapons including rockets, Hellfire missiles and a 30 mm chain gun. The aircraft is equipped with a Day TV system, Thermal Imaging sight and Direct View Optics. It also possesses a state-of-the-art, fully integrated Defensive Aid Suite.

Crew	2
Engines	2 x 850 shp Rolls-Royce RTM-322
Length	9.53 m
Height	3.1 m
Max. speed	330 kph
Cruise speed	272 kph
Combat radius	462 km
Armament	16 x Hellfire missiles, 76 x 2.75 CRV-7 rockets, 1,200 x 30 mm cannon rounds, 4 x air-to-air missiles
Surveillance/target acquisition	TV (127 x mag), Thermal Imaging (36 x mag), Direct View Optics (18 x mag)

Lynx AH7 and AH9

Lynx is the British Army's primary battlefield utility helicopter.

Fast and agile, the Lynx is a deadly tank-killer when equipped with eight TOW anti-tank missiles. Two versions are in service with the Army – the AH7 with skids, and the wheeled AH9. Lynx helicopters can also carry missile counter-measures, a stabilised roof sight and door guns.

Crew	2 (3 with door gunner) + 10 troops
Engines	2 x 850 shp Rolls-Royce Gem 41
Length	12.06 m
Height	3.4 m
Max. speed	330 kph
Cruise speed	232 kph
Range	885 km
Combat radius	Approx 100 km with 2-hour loiter
Armament	8 TOW anti-tank missiles, 2 x 7.62 mm GPMG machine guns





Gazelle

The primary role of Gazelle is observation and reconnaissance.

It is a vital component of anti-tank helicopter operations and is also used in a wide variety of supporting roles: Air Observation Post (AOP) – to direct artillery fire; Airborne Forward Air Controller (ABFAC) – to direct ground-attack aircraft; casualty evacuation; liaison; command and control; and communications relay. It is equipped with a Ferranti AF 532 stabilised, magnifying observation aid.

Crew	2 + 3 passengers
Engine	592 shp Turbomeca/Rolls-Royce Astazou 111N2
Length	9.53 m
Height	3.18 m
Max. speed	265 kph
Cruise speed	233 kph
Range	670 km
Combat radius	Approx. 100 km with 2-hour loiter
Armament	2 x 7.62 mm machine guns (not standard)



Watchkeeper

Watchkeeper is the British Army tactical UAV programme to provide dedicated, persistent, all-weather Intelligence Surveillance Target Acquisition and Reconnaissance (ISTAR) support to Land Commanders. The system is derived from the operationally proven Hermes 450 but significantly modified to include:

- Dual sensor payload including a synthetic aperture radar
- Laser range-finder and target marking capability
- Secure datalinks
- Tactical landing strip capability
- Automatic takeoff and landing system
- De-icing capability

Watchkeeper is being delivered by Thales UK and the programme remains on track for operational deployment in 2010.



Desert Hawk

Desert Hawk is an extremely versatile and small UAV designed for discrete operations.

It is operated normally at the company level but is equally well employed above and below this. It has an extremely good proven record supporting Brigades in Afghanistan. It provides an excellent 'over the hill' view for commanders on the ground.



Landing Craft and Assault Boats



LBdr Kirsty Cox trained as a pilot and commander of the Desert Hawk for her first tour. "It's important to be out here and we're in demand. Everyone seems to want us because we've got a good defence asset and can give them a bit of eyes-on down a route."



The Army even runs its own fleet of ships and landing craft – to deploy troops, equipment and supplies 'over the beach'. Smaller boats are used to patrol harbours, rivers and lakes and help bridge-building and ferrying operations.



Combat Support Boat

The Combat Support Boat (CSB) is a powerful, versatile craft whose major role is to support both bridging and amphibious operations.

Water jet propulsion allows high thrust at shallow draught. It can also be used as a general-purpose working boat in support of diving operations, ship-to-shore re-supply and inland water patrols. The boat is carried on a purpose-built launching and recovery trailer. It is used exclusively by the Royal Engineers.

Assault Boat Mk 6

The Mk 6 Assault Boat is usually paddled for a silent or night-time approach. The glass reinforced plastic boat can be carried by four men.

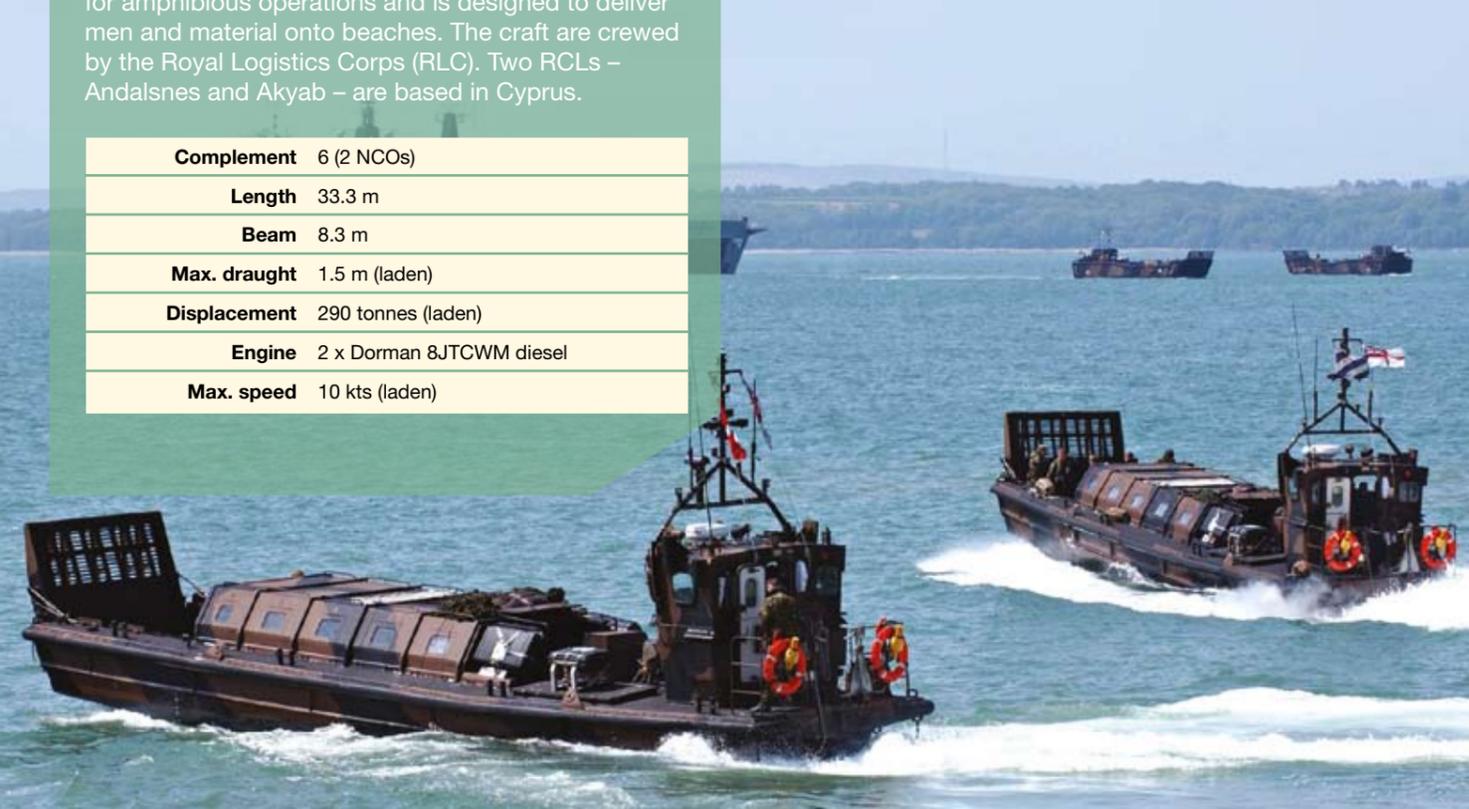
A versatile, general purpose craft designed to carry up to 10 fully equipped troops or 1,043 kg of stores, it also makes a useful ferry craft when fitted with an outboard motor. Assault Boats may be stacked six deep for storage or transport.



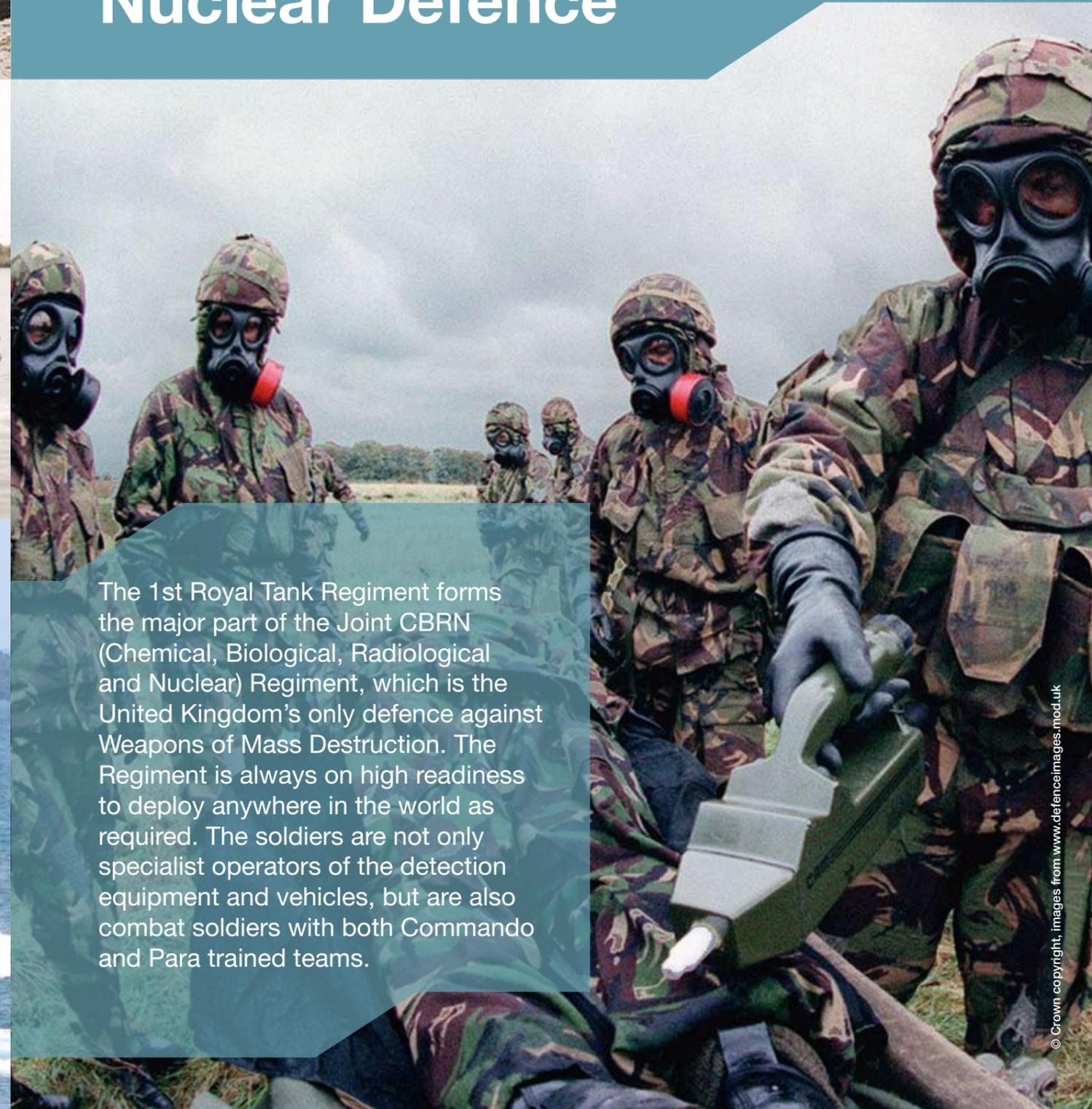
Ramped Landing Craft Logistic

The Ramped Landing Craft Logistic (RCL) is used for amphibious operations and is designed to deliver men and material onto beaches. The craft are crewed by the Royal Logistics Corps (RLC). Two RCLs – Andalsnes and Akyab – are based in Cyprus.

Complement	6 (2 NCOs)
Length	33.3 m
Beam	8.3 m
Max. draught	1.5 m (laden)
Displacement	290 tonnes (laden)
Engine	2 x Dorman 8JTCWM diesel
Max. speed	10 kts (laden)



Chemical, Biological, Radiological and Nuclear Defence



The 1st Royal Tank Regiment forms the major part of the Joint CBRN (Chemical, Biological, Radiological and Nuclear) Regiment, which is the United Kingdom's only defence against Weapons of Mass Destruction. The Regiment is always on high readiness to deploy anywhere in the world as required. The soldiers are not only specialist operators of the detection equipment and vehicles, but are also combat soldiers with both Commando and Para trained teams.

Fuchs Nuclear, Biological and Chemical Reconnaissance Vehicle

The Fuchs vehicles were initially gifted to the UK for the first Gulf War, since when they have been upgraded to be one of the most technologically advanced vehicles of their type in the world. They are manned by a crew of four, Commander, Driver and two Operators. The Fuchs were the first British vehicles into Iraq of the main ground force during the first Gulf War. The vehicle is fully amphibious with a speed through water of 10 kts. The Fuchs forms part of the armoured arm of the CBRN Regiment which facilitates freedom of movement while the Land Forces advance.

Road range	800 km
Crew	4
Operational weight	18 tonnes
Dimensions	7.3 m (L) x 2.43 m (H) x 2.98 m (W)
Max. road speed	105 kph
Engine	Mercedes Benz V8 liquid cooled diesel
Armament	1 x 7.62 mm machine gun, 6 smoke dischargers



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Integrated Biological Detection System (IBDS)

The Integrated Biological Detection System (IBDS) has recently replaced the Prototype Biological Detection System (PBDS) in service with the UK Joint NBC Regiment. This modern system provides an enhanced and automated biological detection system.

Major IBDS elements include:

- A detection suite, including equipment for atmospheric sampling
- Meteorological station and GPS
- NBC filtration and environmental control for use in all climates
- Independent power supply
- Cameras for 360 degree surveillance

IBDS is installed in a container which can be mounted on a vehicle (standard 4 tonne) or ground mounted and can be transported by either fixed wing aircraft or helicopters. IBDS provides the commander in the field with early warning of a biological warfare attack.



Light Role Team (LRT)

The Light Role Team (LRT) is the United Kingdom's early entry capability for CBRN. These eight-man teams are Para and Commando trained and can deploy and fight alongside the expeditionary forces to conduct their specialist operations. They provide Detection, Identification, Monitoring, Analysis and Decontamination and provide advice to the commander on the ground. Operating from specially modified Pinzgauer 6 x 6 vehicles, the equipment is organised so they can deploy forward to cover every eventuality from vehicle mounted to fully man portable tasks.





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