

Combat Vehicles – Less is More: Assessing the New Armoured Infantry

William F Owen examines the Army 2020 concept and suggests that the introduction of a less costly fleet of combat vehicles might enable the armoured infantry of the future to train more effectively and therefore enhance its performance on the battlefield



A Warrior IFV from the British 20th Armoured Brigade trains in Grafenwöhr, Germany, during the 2013 Exercise Bavarian Charger

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According to the Army 2020 concept, the armoured infantry is now, or will become, the British Army's core capability.¹ This article seeks to examine how useful or not that idea may be.

However, how that capability will be expressed seems still open to a lot of discussion in terms of technical detail. Moreover, the concept of capability is extremely relative, unless held to specific forms of measurement and/or comparison. Capability can only exist as a comparison and is often better discussed as 'performance'.² The history of British Army procurement over the last 25 years seems to show the concept of 'capability' to be poorly understood. In fact, it could be argued that Army 2020 was forced upon the Army due to the Army's own inability to understand capability, especially in terms of equipment budgets. Thus

the whole idea of an armoured infantry capability begins at a very poor starting point. In simple terms, the British Army has had to make the armoured infantry its core capability because it has no other choice. The Warrior Infantry Fighting Vehicle (IFV) has been in service some 28 years. There is no vehicle proposed to succeed it, thus it will have to be upgraded.

Warrior upgrade

The Warrior will be subject to a capability sustainment programme (WCSP) with an in-service date of approximately 2018. The detail of the upgrade is still only available in very broad terms. Detail such as armour performance is obviously classified, but the vehicle would seem to now

The Mastiff protected patrol vehicle, pictured here, lacks the mobility of the Warrior tracked IFV



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tip the scales at 32 tonnes, so seven tonnes up from the 25 tonnes it entered service with. Much of the capability increase in the upgrade is predicated on is the fully stabilised 40mm cased telescope ammunition (CTA) cannon that will be mounted in a new-build two-man turret. By any measure this gives the Warrior a substantial increase in performance compared to the 30mm Rarden cannon currently in service. In 2018, the UK will at last have an IFV able to fire on the move, 30 years after the requirement was clearly identified.³ However, it does not seem as though the basic Battle Group Thermal Imager (BGTI) will be replaced by a more capable system. Logically, it would make sense to leverage the increased performance in thermal imaging systems in line with those proposed for the new Scout vehicle. If this is not being done, then it would seem to be an obvious cause for concern.

Boots on the ground

It is an all too common approach to view a vehicle's capability in terms of a collection of systems held free from their context of employment or their application in battle. It is, therefore, important to realise that Warrior will be employed within the context the new Armoured Infantry Brigade. All the current indications are that the upgraded Warrior will dismount six men from the rear compartment, so one soldier less

than before. This means that a company of 12 vehicles (excluding the two vehicles in Company HQ) will dismount 72 men. Assuming three rifle companies in a battalion the number of 'bayonets' actually available to fight on foot will be 216. The new Armoured Infantry Brigade will consist of a reconnaissance regiment, an MBT regiment, two warrior battalions and a protected mobility battalion, probably mounted in Mastiff. Assuming Mastiff will be able to dismount eight men, then three companies of Mastiff would contribute 288 men. Mastiff has substantially lower mobility than Warrior so will only be able to move on proved routes within the Brigade battle space. Mastiff is clearly a 'make do' use of a marginal platform already in service, which should be replaced by a dedicated wheeled APC at sometime in the future.⁴

Much Army thinking has been based on a conjecture that in future combat the urban environment will become more prevalent. Experimentation undertaken in the Urban Warrior Exercises strongly seems to suggest that very old lessons are being re-learned, one of which would be the need for close cooperation of infantry and armour in built-up areas. This means a certain ratio of dismounted infantry is required per armoured fighting vehicle. One problem that has always been inherent to IFVs, as opposed to APCs, is that they are supposed to remain in the direct fire zone. Thus, in built-up areas dismounted infantry are

required to protect them, as well as any main battle tanks present. This means that in built-up areas the Warrior-equipped sub-units may well be dependant on the Mastiff Battalions' dismounted manpower for protection, unless the commander wants to withdraw the Warriors to a safe distance and fight as a true infantry-armour combat team.

Armoured battlefield support vehicle

ABSV (armoured battlefield support vehicle) is essentially a Warrior with the turret removed. It has only ever existed as a solitary prototype vehicle. Its conceptual basis is a Warrior chassis and power train that can be employed for a large number of roles, from mortar carrier, armoured personnel carrier or ambulance to command vehicle. However, ABSV presents a number of interesting performance comparisons to the Warrior in particular and the armoured infantry battalion in general.

An armoured personnel carrier or APC-ABSV would almost certainly dismount eight to 10 men and be operated by a crew of two. In essence, it would be nearly identical to the FV-432 or 'Bulldog' as the much-improved version is called. Such a vehicle would probably only have remote weapons stations for armament, in identical fashion to Bulldog, and would possess the same or better levels of protection as Warrior. In terms of employment, APCs aim to deliver infantry where they can dismount and then withdraw ready to conduct re-supply, casualty evacuation and/or remount troops for subsequent tasks. It can be argued that the tactical doctrine for the employment of APCs is actually more proven and robust than that for IFVs. APCs are substantially cheaper to operate, crew and train on, than IFVs. ABSV would lack the firepower inherent to the 40mm CTA cannon that will equip the Warrior, but is that capability worth the cost and does it stand up to an objective analysis of what the actual demand for this weapon is?

While the 40mm CTA cannon is, by all accounts, a very potent weapon system, what evidence is there that it is needed? What current operational analysis suggests that the British Army needs a new cannon round, when there is little evidence that current weapons are in any way challenged or will be in the future? For example, 40mm x 53 high velocity grenades have an effective range of 2,000m plus and at least two ammunition natures in current production can perforate 50mm of RHA (rolled homogenous armour) thanks to a HEAT/HEDP (high explosive anti-tank/high explosive dual purpose) payload.⁵

The crew training and maintenance costs associated with a fully stabilised two-man turret are substantial compared with a remote weapons station capable of mounting a range of weapons. Additionally, it is much easier to integrate new sensor packs onto remote weapon stations than

it is turrets, and communications integration is also much simpler for an APC than it is a turret-equipped IFV. The weight space and money saved by removing the turret could also allow for the integration of an active protection system, such as those currently in service with the Israeli Defence Force. The Israeli version is already proven in combat. Clearly the 40mm CTA cannon is a very capable weapon, but the organisation of the new armoured infantry brigade would seem to suggest that a squadron of 16 tanks would support each of the three infantry battalions, meaning that each rifle company would get at least a four-tank troop in fire support.

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Armoured infantry

It seems to be a mistake to assume that the future armoured infantry capability is solely tied to upgrading the in-service IFV. Combat power is inextricably linked to training and organisation. Having 25 per cent more dismounted troops and a cheap and sustainable training plan would have seemed to have offered a serious alternative to the IFV-based approach, which has represented the traditional approach to date. Sadly this is all academic. The armoured infantry approach is firmly rooted in the Warrior capability sustainment programme, and the consideration of an alternative approach at this stage would be impossible for industry or the army to accommodate.

What the ABSV comparison does provide is a benchmark by which to better understand the organisational, doctrinal and equipment capabilities that will give the armoured infantry brigade its combat power, in terms of activities it can do well by virtue of the correct investment in training and all that that entails. As the 2006 Lebanon war showed, formations could only do in combat those things that they are well practiced in doing as part of their normal training. Training costs money. Ultimately, whatever equipment solutions form part of the brigade, they will have to conform to training methods and budgets that translate those equipment solutions into combat power. Everything we know about land warfare tells us that success lies in simple things being done extremely well, and not complicated things being done to a budget. ■

Upgraded FV430 Mk3 Bulldogs were delivered to the British Army in 2006 for use in Iraq



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Footnotes

1. Army 2020 Brochure, page two
2. See a discussion by this author, JUNE 2009 *RUSI Defence Systems*, 'Alice in Warminster'
3. The US Bradley entered service 1981 with a fully stabilised turret as firing on the move was inherent to the IFV role of being able to fight with main battle tanks. It is extremely hard to understand why the UK chose to ignore this requirement
4. This is often implied as being something close to FRES-UV
5. The two ammunition types concerned are M430A1, in current US service, and the S411, manufactured by Floro International