

## Written evidence submitted by Border Ballistics Technologies Ltd

### **Introduction**

My interest in the overall military capability of the UK is through the experience of running a precision engineering company making rifle barrels, which supplied the barrels for the UK sniper rifles, the Pakistan sniper rifles and the US special forces sniper rifles in both Iraq wars and the Afghan war. I have a keen interest in the science of internal ballistics and maintain an online internal ballistics website for predicting the ballistics performance of small arms systems. I am not a professional military analyst, but do none-the-less have a keen interest in the capabilities of our military systems and offer such insights as I have on that basis.

### **A Changing Situation**

The UK's position in maintaining a 'tier 1' (or 'reference') military capability has depended on a creative interpretation of the term. After the end of the Cold War, the nature of the military conflicts in which the UK found itself was 'small war' anti-terrorist incursions and post-conflict peacekeeping duties, always in the shadow of the United States. The threat of large existential wars between military peers seemed to have receded and the UK army was thus adapted to better meet the needs of this new requirement.

With regard to it's NATO commitments, the UK seems to have adopted a 'deterrent' posture, where it maintains a force large enough to keep the stable door shut until the US cavalry arrives, rather than a posture of 'denial' whereby it has enough strength in depth on its own to counter the aggression of other potential peer adversaries. Of course, the deterrent posture is a much cheaper alternative and so has its attractions while the threat from peer adversaries remains low.

However, Russia has spent two decades reviving its military strength and is now in an actively revanchist mode. China, which has similarly been investing hugely on its military capability, has made no secret of its revanchist ambitions with its attendant consequences for world trade and world security. The UK has arguably ignored the growing threat posed by Russia and China and has preferred to believe that the risk of 'hot' conflicts with these countries remains low, so that increased military spending was not a priority. Russia's attack of Ukraine in February 2022 means an urgent reassessment of that position is now required.

Clearly, the possibility has become much greater that future military conflicts in which the UK may find itself involved will be 'old style' existential conflicts between peer adversaries. And this has to be seen against a background in which the US may well be moving into an isolationist phase where the expense of being the 'world's policeman' is not seen to be to the advantage of the US any more. This means we should no longer count on the US to take the lead in defending the West (Europe) against macro-aggressions.

### **Future Wars**

It is clear too from the current Russo-Ukraine war that the nature of warfare has changed dramatically. What might (or might not) be a tier 1 military capability today, will certainly not be tomorrow. The report "Preliminary Lessons in Conventional Warfighting from Russia's Invasion of Ukraine: February–July 2022" by the Royal United Services Institute (RUSI) is a prescient look at how a future army needs to be structured to be effective on tomorrow's battlefield. There were five main lessons:

- There is no safe distance from the front where logistical hubs or command centres can remain static and have reasonable expectation of remaining safe. A huge innovation in logistics is required, whereby a larger number of smaller storage sites are moved around continuously, and in communication whereby command centres will need to be scattered and mobile yet remain effective.

- The use of cheap drones in large quantities on the battlefield has assumed an importance that was not appreciated before the war. Countering enemy drones by kinetic means must have a cost comparable to the drones themselves and there is then a requirement for cheap, dedicated anti-drone fires. The communications infrastructure to allow drones to fly in the same space as aircraft and to be identifiable as friendly, needs to be developed.
- The West in general has been found wanting in its reserves of munitions and other equipment, along with the realisation that procurement times for (re)stocking in meaningful quantities is typically of the order of years. Much larger stockpiles of munitions and other equipment are needed so that once an initial contact has been survived, a protracted phase of a war is viable. The UK's entire stockpile of artillery shells would be enough to supply Ukraine for one week in the current Russo-Ukraine war! However, reserves of all other equipment are needed from missiles to radios. In particular, effective training facilities must be put in place so that replacements for battlefield casualties do not depend on 'on the job' training or soldiers being pulled off the battlefield to become training staff.
- A balance needs to be struck between 'exotic' military equipment whose effectiveness is offset by its high cost per unit and consequent low stock numbers, in contrast to a cheaper alternative whose net effectiveness is actually greater by virtue of higher stock numbers and shorter manufacturing time. The procurement system needs to place a higher value on a long term protracted war capability than just an initial contact survival capability.
- While hardened defensive positions have been found to be effective on the front line, the survivability of front line troops depends upon mobility. In particular, positional change should be on a smaller timescale than the kill-chain response time of the enemy. This places great strain on maintaining an overall awareness of the locations of friendly troops so that friendly fire remains a low significant problem. Situational awareness systems need to be developed to meet this requirement.

The implicit underlying message from RUSI is that the UK needs to move decisively from a 'deterrent' posture to a 'denial' posture, taking into account the changed nature of modern warfare and gearing for a protracted conflict rather than just a first contact capability.

### **Tanks and Artillery**

At the start of the Russo-Ukraine war, the success of NLAW anti-tank missiles threw into question the usefulness of the tank on the modern battlefield. That question seems to have been answered in that it is still generally agreed the tank remains a potent weapon when used correctly in the battlefield, particularly in opening up an offensive front.

The question of whether the UK needs a significant tank and artillery capability for its own defence, needs asking however. For the UK itself, its defence must rest primarily on its naval capability, as it always has. It is arguable then that the UK only needs a tank and artillery capability to strengthen and back up the forces of other (NATO) countries where geographic circumstances means that tanks and artillery are necessary for their protection. That being the case, it follows that UK procurement of tanks and artillery should be a joint effort with such countries so as to minimise the logistical problems of spares, compatible munitions, and training.

The current situation where, for example, we have the anachronistic Chieftain tanks with their unique rifled barrels and maintenance challenges due to a mixture of metric and imperial dimensions, is not a basis for logistical efficiency in conflicts where we operate jointly with other forces.

The restrictions of export licences from other countries supplying us military materiel, whereby they can dictate the circumstances in which that materiel can be used, must be avoided!

### **The Navy**

The US navy has moved from a 'generalist' navy towards carrier groups where a number of aircraft carriers, each equipped with a potent air attack capability, can 'project power' where it is needed around the world.

The UK would appear to have tried to emulate this by building two aircraft carriers. However, the budget necessary to properly arm these carriers does not seem to be available and the UK navy does not have enough ships to form the necessary carrier support groups to protect both carriers. It would seem the carriers can only operate properly if they are part of a US naval operation and this rather limits any claim the UK might have as an independent naval force.

One aspect that has been thrown into high relief recently is the vulnerability to attack of our offshore gas and oil pipelines, offshore wind turbines and undersea internet communications cables. The navy as currently constituted is ill equipped to deal with this threat. The strategic importance of this offshore energy and communications infrastructure needs to be recognised and a dedicated defence capability put in place to protect it.

### **Future Alliances**

The US has been the world's peacekeeper for the past three quarters of a century and will most probably continue to be an essential element of the security of the West for the foreseeable future. However, it must be recognised that the Russian threat to European security will not cease with the ending of the Russo-Ukraine war, whichever side wins. Russia will rebuild its military capability and at some point in the future will once again continue its revanchist ambitions to counter what it sees as the 'threat from the West'.

Former Soviet Eastern European countries have responded to the clear threat from Russia by increasing military expenditure, so that they can offer a credible denial to Russian aggression, rather than a deterrent force that depends on American intervention after initial contact. There is a move to form an alliance of front line Eastern European states who have shared boundaries with Russia and the UK would be well placed to foster and join with such an alliance so that it remains within the framework of NATO and NATO strategic thinking.

### **Asymmetric Warfare**

Russia, and to a lesser extent China and other autocratic states, have increasingly used propaganda, hacking and other outlandish unconventional methods in an attempt to destabilise Western democracies and neutralise opposition to their own agendas. Countering such actions is difficult as it does not fit neatly into the sphere of military activity or espionage activity and is often quite legal, using the freedoms of a liberal democracy to undermine it from within.

However, such activity must be recognised as a deliberate attack on Western democracies and so are effectively acts of war. Urgent thought should be given on how to proactively counter such activity.

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