



Don't Blame It on the Network

by *David Lynam*

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The Defence White Paper announcing Force restructuring, and the events in Iraq post the end of official hostilities, led to a torrent of public outpourings condemning the move to Network Enabled Capability (NEC) as high risk and unproven. Further, that it is only of value in large-scale, high-intensity operations; that NEC is really about budget cuts, not new ways of fighting; and that, anyway, NEC is only a poor man's Network Centric Warfare (NCW). Such a reaction, if rather disappointing, was unsurprising, given that virtually every new technological innovation in warfighting since the beginning of history has been met with similar scepticism. However, NEC, far from being the driving factor, is in reality the only sensible way forward given the much wider defence and sociological factors.

The Need for NEC

True, the defence budget is in dire straits, although much of that is due to overspending on legacy acquisitions. There are, though, much more compelling factors that convince one that the investment in NEC must be protected, for that is what we are really talking about – not a shift in balance of investment, but rather a shift in balance of debt. There has been no major new money committed to NEC as programmes such as Bowman,

Skynet and Falcon have long been in the budget, but rather those programmes have been protected at the expense of platforms.

Other factors include the shift towards expeditionary and effects-based operations. The former require fast-reacting, agile forces of the minimum size so as to speed deployment, reduce the logistics burden and facilitate fast withdrawal whilst still achieving the mission. The latter requires superior enemy information with pin-point accuracy of effect to reduce collateral effects and maximise outcome, all under the glare of a fast-reacting and critical world media.

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Armed forces the free world over are also suffering from the problems of recruiting and demographics that mean large armies of the past are just that, a thing of the past, however many ‘boots on the ground’ some may desire. Hence, we must use and organise our limited forces more intelligently. Also, many of our systems, both platforms and networks, are now obsolete and well overdue for replacement, and we require medium weight capabilities to provide flexibility of response. So, the Future Rapid Effects System (FRES) is properly examining all alternatives, including network connectivity, to improve the performance whilst keeping weight to a minimum.

Information and communications technology has been successfully used to

achieve such objectives in the commercial world, and the military must take advantage of this as the key enabler in order to remain a successful military power in the future. The detractors are, however, quick to point out that NEC is too immature and the benefits cannot be proven.

This is certainly not the case as far as the principles of NEC are concerned. It is a military truism that the force with the superior knowledge of the enemy has a major advantage, and there is compelling evidence of the efficacy of connecting weapons, sensors and commanders. The Blitzkrieg effect pioneered by Guderian, through fitting radios to tanks and hence connecting his ground force with airborne reconnaissance and highly accurate ground attack aircraft, and the Battle of Britain with radars, spotters, command HQs and aircraft all connected in real-time, are examples of how potentially inferior forces overcame much greater forces through the power of networking. However, NEC is not restricted to high-intensity warfighting. The early phases of the Northern Ireland (NI) conflict were epitomised by large numbers of troops on the ground, with limited success, but it eventually became one of the most highly networked campaigns. Every soldier had a personal radio, direct access to computer records, fully networked sensors and the first use of streaming video from the air, all leading to very different operational methods and considerable force reductions over time.

Nor do our highly effective command principles have to be abandoned. Manoeuvre Command, based on the understanding of commanders' intents, will be enhanced because NEC will provide a better understanding of enemy and coalition forces' situations.

The much-heralded capability of the junior non-commissioned officers (NCOs) in the UK Army was forged and enabled in NI through the highly networked nature of that campaign. The UK has a very different way of warfighting from some of her allies and major proponents of NCW, such that the modest changes in the UK could prove just as beneficial.

Technology, security and robustness still remain issues. Most of the previous examples were based on fixed sites with little requirement for mobility. In such environments this new technology is now very robust, but there are also major advances being made in the mobile environment. The drive for security in the commercial world will also fuel improvements that will benefit the Armed Forces. Criticisms – such as if your map is hit by a bullet you can still use it, whereas if your PDA is hit then you are lost – are specious to say the least, mostly because you are likely to be dead in both circumstances!

The concerns about robustness, reliability and skills are uncannily similar to those raised about mechanised warfare in the 1930s, causing many to enter World War Two still with mounted cavalry. However, I do not recall 1st Armoured Division taking horses to Iraq. In the same way, the lack of robustness in NEC is transitory only from lack of investment in sufficient capability to deliver the robustness required and through-life support, rather than the continued need for fall back on reversionary contingencies. Historically, armed forces have been the first adopters of new technology and have dealt effectively with the relative immaturity that accompanies such an approach. This must apply with the adoption of NEC.

NEC's Achilles Heel

All that said, the Achilles heel of this approach remains with the individual, not the technology. Whilst it is true to say that the commander with the better information has the advantage, it is only if he can use it to best effect through his military art that he will be successful. NEC does not replace the brilliant military commander, but it enables him to do his job better. And we have seen that NEC does not make a bad HQ good, but in fact the opposite – the potential information overload can paralyse. The modern commander, at whatever level, is faced with a complexity unparalleled by his predecessors – he has considerable political constraints and his every action is monitored by the media now embedded in his force. The range of effects available to him is unprecedented, as is the quantity of information, and he must weave this into an operational tapestry that leads to success. In addition, he must achieve this through a joint/coalition force, consisting mainly of people with whom he has not even worked before, let alone knows intimately.

The Overriding Importance of Training

The approach to effects-based operations and NEC will only be successful if we can train both our operators and our commanders in the art of its use. This is no different from any other weapon system or tactic, but the pressures on budgets affect this pursuit more than any other. The UK can only afford one major Joint Force overseas deployment every four years. The pressures on training areas, flying hours, training budgets and the high level of operational deployments all conspire to make this situation even worse. Experience shows that some 48% of whole-life costs are taken up by training, and yet often training is the first element to be cut in any project. The ability to test commanders realistically,

with inputs from strategic intelligence, UAVs, EW, etc. linked to air, maritime and ground components of a coalition force, is essential if the doom-mongers of NEC adoption are not to be proved correct. Once again, though, the answer is not difficult. With the correct level of simulations, such as the Army's Combined Arms Tactical Trainer, fully networked internally and internationally and mixed with live training, our commanders will derive maximum benefit from NEC. It is the investment that is needed, not technological advances.

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So, much to the dismay of the pundits, there has been a fundamental shift away from a total reliance on platforms and mass to one of intelligent use of targeted effect through more flexible platforms to achieve battle-winning tempo that is enabled through superior information availability. History shows us that this is the correct approach across the spectrum of operations, that current defence and sociological factors demand it, and that the technology is sufficiently mature to give us confidence to embrace its adoption. It will, though, only be successful if adequate and realistic training is in place for our commanders. So, rather than wailing the passing of the ship, tank or regiment in payment for high technology weaponry and blaming NEC in particular, the critics should recognise the imperative for such an approach and rather turn their ire to the need for sufficient investment in training – or, perversely, they will be proved correct. ■