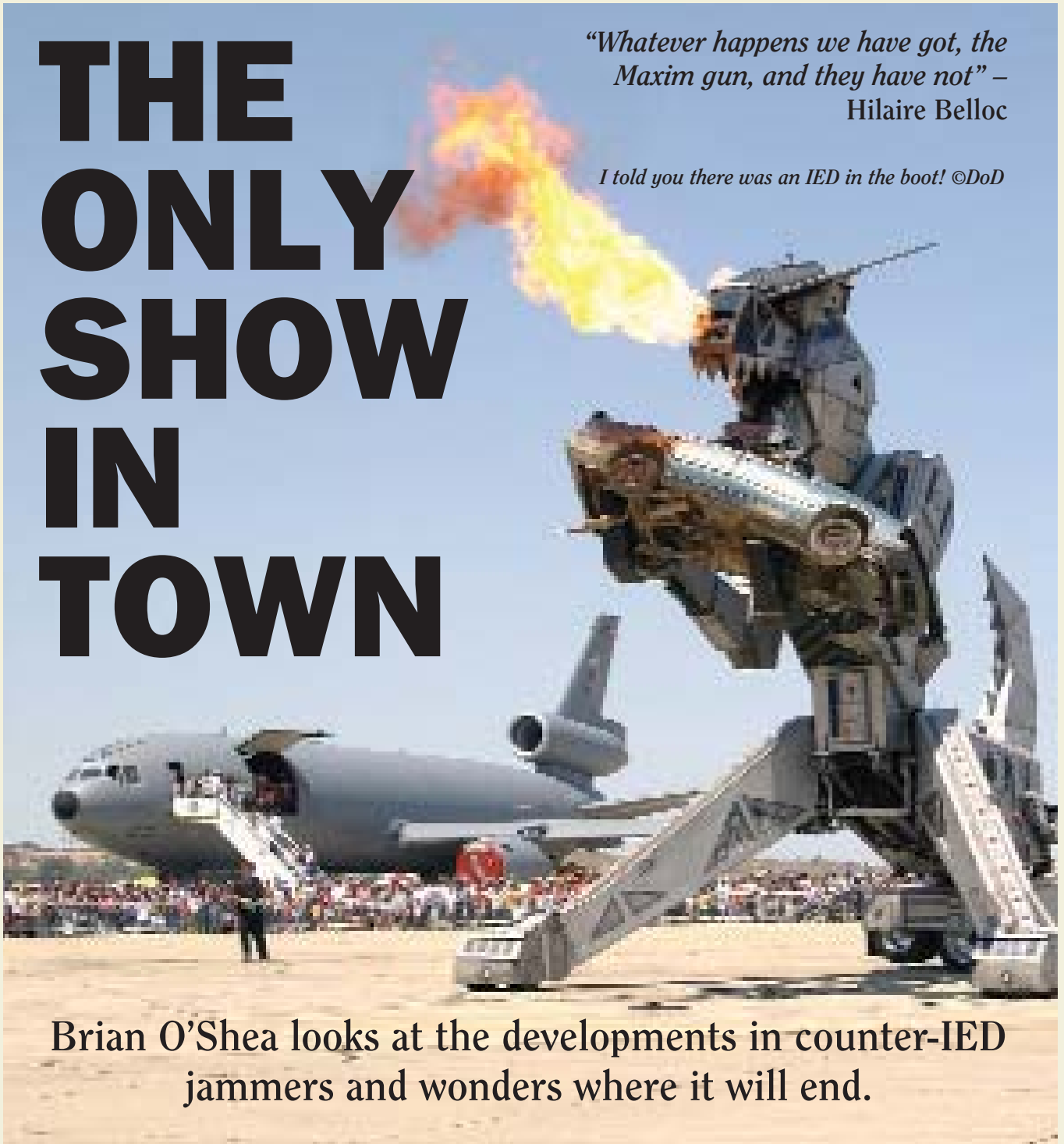


# THE ONLY SHOW IN TOWN

*“Whatever happens we have got, the Maxim gun, and they have not” – Hilaire Belloc*

*I told you there was an IED in the boot! ©DoD*



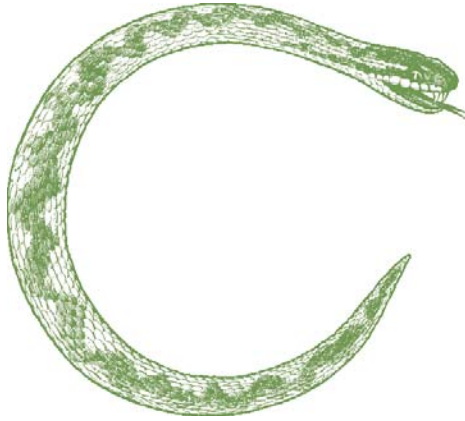
Brian O'Shea looks at the developments in counter-IED jammers and wonders where it will end.

AS THE Bush and Blair governments ponder what to do about Iraq and Afghanistan, it is worth noting that three of the key items that have brought them to this impasse are ingenuity, brutality and IEDs. The latter is the insurgent's Maxim gun and much like Obeahs, Witch Doctors and

Mullahs sold trinkets to turn the Maxim guns bullets to water, industry is (mainly) selling the same trinkets to the military and civil forces – to turn away the bad ju-ju of the IED. This is not to say the various jammers and protective vehicles do not work, but rather to say they do not work for long.

The Joint IED Defeat Organisation (JIED-DO) (and its earlier *nom de guerre* the Joint IED Defeat Task Force) has come under a great deal of criticism for trying to achieve a counter-IED-in-a-box approach – a silver bullet. It is not hard to see where this criticism comes from: November saw BAE Systems

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# THE ONLY SHOW IN TOWN

awarded a \$79.5million contract; in March General Dynamics received a \$289million contract; Raytheon received \$15.5million in January and JIEDDO will spend over \$3billion in 2006. Prior to the “Global War on Terrorism”, where did IEDs fit into the Network Enhanced Capability? Now, like some of the lessons learned from the recent Lebanon-Israel unpleasantness, IEDs have changed the way the military think; now the threat is a bomb-making cell in someone’s garage rather than a shadowy pan-national terrorist organisation located in their Tora Bora lair. The defeat of IEDs is becoming something to safeguard people’s projects and careers and everything is being pulled into the fight.

Soldiers are requesting sweeps, both physical and electronic, of planned routes, UAVs to fly over head, aerostats to provide long-loiter evidence-gathering of locations, air cover from assets like JSTARS, attack helicopters, EA-6B Prowlers, EC-130s and U2s. Any platform that has a surveillance or ECM role – especially if it is due to leave service or suffer cuts – is being touted as a potential in the counter-IED world for long enough to ensure that the programme manager has moved on and it becomes a problem for his successor.

This is not to suggest that some, or even all, of these platforms don’t have a use. In fact, attacks have gone down in areas that are known to be under surveillance – sophisticated IEDs cannot just be dropped randomly. The need for input from these platforms is symptomatic of the shortage of universal solutions and an attempt to show some of the same ingenuity that the insurgents possess. Neither is this a threat that is going to go away if it is ignored. The past two years have been a period of enormous development in the IED world, and the inability to interdict the bomb cells shows in the maturity of concepts, technology and procedures.

Previously, British sources suggested that 40 per cent of all IEDs were radio controlled, 25 per cent were victim operated, 20 per cent were command wire and 15 per cent were suicide. Now the trend is towards vehicle-borne and radio controlled, with a drop off in victim and suicide IEDs. The latter is no surprise; at the current rate of IEDs in Iraq there will be a shortage of willing martyrs, and unwilling martyrs (those coerced into doing it by threats to their families) can prove ineffective and short on zeal. There is also the fact that each suicide bombing deprives the terrorists of one of their most committed assets – all

that training and brain-washing gone. Far better to see whether they can emplace or detonate an explosive rather than be part of one.

While the Coalition forces attempt to disrupt the IEDs, they are always catching up with technology; in terms of protection the shoe is on the other foot, with fundamentalists having to cope with the latest vehicles and armour technology. Deployment of vehicles such as the Nyala and Buffalo have forced insurgents to rethink their operations and technology, and have seen an increase in explosively formed projectiles and IEDs placed higher – to attack the top rather than bottom of the vehicle. While the high value target in Iraq and Afghanistan is clearly coalition forces, they are usually well trained and equipped – and getting better by the month. The same cannot be said of the local military and civil forces. The Pentagon examined last year whether it could start deploying counter-IED skills and technology out to the Iraqi national forces – also an attractive target, as keeping the police weak, cowed and compliant is necessary for the imposition of the terrorist’s own objectives. This ran into the sands of common sense, rather than political expediency, when the suggestion that providing the

heavily infiltrated Iraqi forces with highly classified information might be a step backward in the fight against IEDs. This is, unfortunately, a pyrrhic victory. Without Iraqi security forces having the ability to disrupt the terrorist brethren’s attack there would seem little attraction for them in leaving their thrall. Yet a halfway house – along the lines of the trade rifles that the British used to disperse among the security forces in the Empire – would not work among in the counter-IED world where the insurgents would set the bench mark above the jammers rendering them useless at a stroke.

The technology itself has proved to be a two-edged sword. Radio jammers work by denying service to the radio controls that are used to set them off and can be complemented by other denial-of-service devices that can affect mobile phones. Unfortunately the more powerful devices, and often the most effective, can also short out the radio of the friendly forces and the surrounding area. The recent award to BAE Systems was for their Guardian product, which provides a protective bubble but without impinging on coalition communications – but, as is always the case with CIEDs, the proof will be in the operational



*The IED threat is getting greater and more complex © DoD*

pudding. There is also the power issue where the desired length of bubble may exceed the power supply of the vehicle battery – requiring additional power and possibly some form of cooling – especially if the system has to be “on” for long periods of time because there is a shortage on intel. In many cases the jammer does not stop the blast, but only delays it until the convoy has passed, whereupon it often detonates, killing any civilians unlucky enough to be in the vicinity.

Work has also been done by the insurgents to develop infrared initiators, which detonate once the beam is broken – supposedly unhampered by jamming technology. This system still needs to be instigated however, usually by radio, meaning that the jammers need to be deployed in front of the force – effectively elongating the jammed ‘bubble’ into more of a ‘sausage’ shape – which is where the desire for UAVs come from; the ability to safely project the force without fear of loss. UAVs are expensive, however, and the payload that they will be carrying is sensitive; quite whether the risk of using them is worth the result is unclear. Equally, many forces suffer from bandwidth problems, and real-time video streaming comes at a cost – in terms of both technology and manpower.

The unmanned system of choice for dealing with IEDs is the UGV, however, and these have had a renaissance in Iraq. But while Allen Vanguard’s Defender and Foster Miller’s Talon have provided sterling work in Iraq, the future is undoubtedly for lighter, mini-UAVs. The larger “Wheelbarrow”, while capable, does require a greater logistics capability than an iRobot Packbot strapped to the hood of a vehicle. Whatever is used, however, the demand is still there for a trained operator at the end – this is the major choke point. Terrorists quickly learn that the greatest high-value targets are the individuals who have the nerves and skill to defuse these devices before they cause any damage – once these people can be eradicated, the terrorists’ lives become far easier. True to form, Iraq and Afghanistan have seen a dedication to stopping the EOD men, yet the sheer amount of devices deployed is having a far greater effect than their attempt to kill the deactivators. The common soldier and engineer is now finding himself in the unenviable task of being a part-time EOD operative, yet is also finding novel solutions. Finesse and professionalism have come second place to a well placed tank round or burst of 50 calibre; with a shortage of forensics and a long list of suspects, no-one is too worried



*Sometimes a well placed tank round can do the job wonderfully © DoD*

whether the device is destroyed.

While the US has a varied approach to the IED problem – as suits their wallet – the UK has to be more circumspect. The British Army has indicated that the mini-RCV is key, closely followed by improvements in stand-off detection, passive IR and better ground penetrating radar. Yet most important of all is the need to keep being proactive and, with a low false alarm rate in the IEDs, keep trying to intercept them. The latter is a priority, with vigilance among the rank and file being key. There is a need to question everything – why is that pressure cooker there? Why is there a sock on that cooking pot? How long has that vehicle been there? Do I know the route? Why is there a detour? Where have all the children gone? – and this fight against complacency will pay as much dividends as all the expensive machinery. This is perhaps the most difficult thing to achieve, and perhaps the one thing that many critics of JIEDDO fail to realise – the non-technical solutions are the

best, but they are the hardest to achieve and require a vigilance and drive that is often missing in demoralised troops. It is far easier, and is likely to result in fewer deaths in the short term, if the technological solution is embraced. It does not have to be invented, however; many of the lessons needed can be traced from the British experience in Northern Ireland and the US experience in Vietnam. The trick will be to weld those lessons into the advantages that modern technology can offer, and to pick which technologies can best offer synergy, rather than trying them all at once and seeing what happens. Jamming, surveillance and UGVs all have a place in the fight against IEDs, but they must not be mistaken for *being* the fight. The ability to intercept and to think at a level above the opposition will bring greater dividends – this cannot be a lesson just for the EOD professional, however; this awareness will need to be inculcated at the lowest level in all branches of the military, and especially the “loggies”.