



Improvised threats - not just a land problem

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Introduction

After spending three years in the Joint Improvised Threat Task Force (formerly the Counter IED Task Force), I feel lessons that have been learned (sometimes the hard way) should not be lost in translation to the Navy. The maritime domain is a hard operating environment and poses significant challenges for improvised weapons but as technology becomes more prolific so does the ability to improvise weapons that will ultimately be able to be used in the maritime domain. This paper is designed to provoke thought and to continue a process where the complexity of current operations challenge the thought process of those involved in the operation. The paper will challenge some schools of thought and if it only achieves that, then the goal has been met.

Whilst not a new phenomenon on modern battlefields, first appearing around 2003, the improvised explosive device (IED) emerged as our adversaries weapon of choice and has been used against Australia and our allies most recently in Iraq and Afghanistan. The use of the IED by both state and non-state actors continues to evolve and intensify within the wider Australian Area of Interest (AOI) and Area of Responsibility (AOR). The Australian Defence White Paper (DWP) 2013 recognised the enduring nature of IED proliferation across the globe and confirmed the IED is “now a part of the future operating environment of the Australian Defence Force (ADF)”. This understanding of the IED’s part in contemporary operations has been continued with the White Paper 2016, which detailed the continuing acknowledgement of the presence of asymmetric threats.

The IED constitutes one element of several kinetic forms of improvised attack that can be employed by an adversary. IEDs are tactical weapons (which have strategic effects) with the potential to cause high casualty rates (both physically and psychologically) and inhibit both Freedom of Manoeuvre (FoM) and Freedom of Action (FoA). The use of social media then compounds the psychological impact of the event in a broad cross-section of the globe, thus globalising the threat - from a tactical low-cost event.



What we see as the problem:

This image depicts what is traditionally considered to be the 'problem' in the improvised explosive device domain.

When combined with a broader enemy campaign, the successful employment of IEDs can also impact disproportionately on the conduct of operations at the operational and strategic levels. As such, the IED can ultimately set the conditions for the strategic defeat of a country without that nation’s armed forces have suffered a decisive tactical defeat. Improvised threats include improvised explosive devices and the use of other commercially available products utilised otherwise from their original design. ¹

In 2014, there were more than 15,000 IED incidents across 130 countries, conducted by more than 50 regional and transnational threat networks, groups, or entities. These IED incidents resulted in the death or maiming of more than 40,000 people. The devastating and indiscriminate effects of an improvised weapons system have grave implications for social and economic development as well as political stability in regions of the world where it is employed; they fundamentally undermine the authority of the State as it demonstrably cannot protect its people.

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The IED is traditionally seen as a weapon that is used in the land domain and primarily against land targets. The Australian experience in both Afghanistan and Iraq led to the development of countermeasures and capabilities that allow our (primarily) land forces to operate in a battlespace where improvised devices are used.

The IED being regarded as a land weapon is only part of the challenge, the IED has and will continue to be used across all domains as a most cost-efficient and psychologically effective weapon. Recent events in Europe demonstrate the utility of the weapon and the disproportionate impact a relatively cheap system can have against even a prepared target.



The evolution of the problem: Brussels - 22 March 2016

Two suicide bombers, carrying explosives in large suitcases, attacked a departure hall at Brussels Airport in Zaventem. The first explosion occurred at 7:58 a.m. in check-in row 11; the second explosion occurred about nine seconds later in check-in row 2. The suicide bombers were visible in CCTV footage. Some witnesses said that before

the first explosion occurred, shots were fired and there were yells in Arabic. However, authorities have stated afterwards that no shots were fired. A third suicide bomber was prevented from detonating his bomb by the force of a previous explosion. The third bomb was found in a search of the airport and later destroyed by a controlled explosion. Belgium's federal prosecutor confirmed that the suicide bombers had detonated nail bombs.

The domain of improvised explosives is no longer land centric. The proliferation of knowledge has ensured that improvised devices can be used in the land, air and maritime domains. As the use of improvised weapons continues to evolve, so does the ability of our adversary to share that knowledge. Tactical development is not a purely military phenomenon and in many cases, the adversary can evolve tactics (without an overarching bureaucracy), in a fraction of the time taken by modern militaries. Examples have been seen where an adversary can identify a technology, purchase the equipment, trial, modify, fabricate and operationalise a capability, all with 6 months – this is in stark contrast to systems that take 10 years to realise a capability when introduced through a bureaucracy. In some areas, adversaries can very successfully harness the unwitting competitive advantage commercial companies have to maintain their market dominance (for example Apple's iPhone six-monthly upgrades and 12 monthly new models). This rate of commercial adaptation is extremely challenging to counter.

The ability of adversaries to develop an improvised weapon to operate in other domains continues largely unabated. There are abundant examples of the effect that can be created from more adaptive enemies together with precise targeting whereby the threat is now largely agnostic to the domain. The challenge now for a modern military has become how to manoeuvre in a domain where the adversary could reasonably be expected to use improvised weapons.

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Air Load Team members of the Australian Special Forces Task Group (SFTG) unload equipment off a United States Air Force (USAF) C-130 Hercules at a Forward Operating Base (FOB) in Afghanistan while United States Army CH-47 Chinook helicopters take off in the background. Photographer: SGT John Carroll.

The air problem:

Maysaan Province, SE Iraq, February 2007

The crew of an RAF C-130 aircraft were ferrying troops into the area which had been cleared and swept by friendly forces. The preparations included an inspection both of the landing strip and areas on either side of the improvised runway. The approach was uneventful until an IED detonated as the Hercules flared. The associated flash temporarily blinded the aircrew. The first detonation was followed by a second flash and a louder explosion. The aircraft veered to the left of the runway with a fire on its port side and on coming to a halt was quickly evacuated with only minor injuries. The aircraft was subsequently destroyed by coalition forces as there was no immediate way to retrieve it. ²

Aircraft operating from fields inside the AO was a logical step. The evolution to target aircraft on the ground has not been revolutionary, but in a period of years, not decades we have seen the ability to target civilian and military land targets evolve to also include military and civilian ships. The shift in targeting has shown the learning nature of an adversary (for a long time considered to be 'dumb' and therefore tactically inept), to an opponent who has now taken the knowledge acquired in combat, adapted and subsequently developed it for the next target set.

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The maritime problem: Mariupol, KIEV 8 June 2015

An explosion that sank a border patrol boat off Ukraine's strategically important port city of Mariupol was caused by a separatist-made bomb, the Ukrainian military said Monday. The boat exploded on Sunday, killing one crew member and wounding five others, as it left its mooring station in Mariupol, which is on the Sea of Azov and the edge of the conflict between Ukrainian forces and Russian-backed separatists." The explosion of the patrol boat in the Azov Sea was caused by a rebel homemade bomb," the military said in a statement. The border guards on the boat spotted the device floating in the water and it exploded as they attempted to pull it on board, the statement said. ³



Maritime Domain

The maritime domain has been considered to be an area difficult to target and achieve an effect. The use of a floating IED against a patrol boat and the use of a land weapon system against a close inshore patrol boat has shown the adaptability of the adversary and the innovation being demonstrated. Although the use of a conventional weapon system cannot be considered improvised, the nature of its use could. The fact that a land weapons system was utilised to attack a sea-based target shows some consideration of the capabilities of the weapon system and how to improvise (overcome) limitations to achieve the desired effect. The problem is further exacerbated by ships manoeuvring in restricted waters as they enter / exit ports and when they are alongside. The problem set is not restricted to current operational theatres. We have seen examples, where improvised incendiary devices have been rigged in fishing vessels and those devices, may have been the cause of the vessels loss while undertow. The ability to adapt a relatively cheap device for use in the maritime is not complex (and contrary to some belief RC does not require a mobile phone network). Countering the problem requires awareness, adaptability, understanding and innovation across the full range of operations. Boarding parties need to be aware of the improvised threat as a soldier is aware when entering a compound, port sentries need to have the best information to ensure they are providing the correct level of scrutiny and the list continues.



Evolution: Aug 2014

SIS Used A Miniature Surveillance Drone In Its Biggest Syria Victory Yet ⁴
"Recently, a video emerged that showed Islamic militants in Syria had acquired a surveillance drone. It marked the first time such technology has been used by the burgeoning terrorist organisation, a RAND Corp. analyst said. A DJI Phantom FC40 unmanned aerial vehicle took the footage seen in the video, which was published on YouTube on Aug. 23, he said. [It's] a spotter mini-drone, so it's ... got a smart camera. It's really used for surveillance purposes to spy on enemy positions," Clarke said."

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The best example of an improvised threat is the current use of commercial off the shelf hobbyist Unmanned Aerial Systems (UAS) by Daesh. These systems pose a threat across the full spectrum of intelligence, surveillance, reconnaissance and more lately to kinetic operations (all from a system that was originally not designed for that purpose). The example above shows use in 2014 but a cursory search demonstrates that this has evolved to kinetic weapons attached to the drone. Thus now proving a low-cost capability that could have a significant strategic effect.

So What?

Adm. James Stavridis former Supreme Allied Commander Europe for NATO and current dean of the Fletcher School of Law and Diplomacy at Tufts University has stated that he considers ISIS is a highly motivated organisation and would not rule out a further USS Cole style attack.⁵ The landscape of improvised attacks is constantly changing and recent developments in the adaptation of commercially available technology increase the risk to naval personnel whilst afloat and ashore.

The complexity of the naval problem does not only exist while at sea but also magnified in the littoral domain, in chokepoints and alongside where naval personnel must deal with the complexities and vagaries of an ever-adapting and evolving threat. The ability of a technologically advancing adversary to improvise both kinetic and non-kinetic weapons to win the physical and psychological battle can not be overlooked. Maritime tactics should consider the potential for technology to be used in innovative ways and integrate this into planning at all levels, events from 'simple' boarding through to complex warfare scenarios all require a level of consideration of the improvised threat.

Adaptability and innovation must be used to combat adversary adaptation and innovation. Without this ability, we will become 'soft' predictable targets. Available technologies must be used to their full effect and then improvise their application to provide a technological advantage against a technologically aware adversary. Militaries, not just Navies, must wholly understand the capability being used against us and not become complacent in our fight against that technology and how to overcome it.

¹ This paper will focus on IED events, as the shift to improvised threats (as opposed to improvised explosive devices is relatively recent and the data collection in the new parlance has not been achieved) but the nuance of IED as opposed to improvised threat should not be lost.

¹ Lessons for the Future of Counter IED (C-IED) Operations downloaded from <http://www.dcs.gla.ac.uk/~johnson/papers/ISSC2011/IEDs.pdf> on 20 Jul 16

² Lessons for the Future of Counter IED (C-IED) Operations downloaded from <http://www.dcs.gla.ac.uk/~johnson/papers/ISSC2011/IEDs.pdf> on 20 Jul 16

³ Kiev Blames Patrol Boat Explosion on Ukrainian Separatists downloaded from <http://www.themoscowtimes.com/news/kiev-blames-patrol-boat-explosion-on-ukrainian-separatists-47211> on 20 Jul 16
<https://www.businessinsider.com.au/isis-has-demonstrated-drone-capabilities-2014-8#iRGcpoLDV4iQq0dL.99> downloaded 29 Mar 17

⁴ <https://www.businessinsider.com.au/isis-has-demonstrated-drone-capabilities-2014-8#iRGcpoLDV4iQq0dL.99> downloaded 29 Mar 17

⁵ WEST: Former NATO Commander Stavridis Warns ISIS Could Strike Marine Corps, Navy Fleet downloaded from <https://news.usni.org/2016/02/17/west-former-nato-commander-stavridis-warns-isis-could-strike-marine-corps-navy-fleet> on 22 Mar 17

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