

Australian Army Research Centre

Spotlight Brief 2/21

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Contents

A note from the Editors4
Science, Technology and Industry5
The Effectiveness of Armoured Vehicles in Urban Warfare Conditions
Rethinking the Role of Remotely Crewed Systems in the Future Force
Towards a Quantum Internet: Post-pandemic Cyber Security in a Post-digital World7
Quantum Computing's Cyber-Threat to National Security8
Our Region9
An analysis of counterterrorism measures taken by Indonesia since the 2002 Bali bombings9
Disaster governance and prospects of interregional partnership in the Asia-Pacific 10
Engagement of China and India in the Western Indian Ocean littoral and island states of East Africa11
The Elusive Quest for an 'Asian NATO'11
Disruptors' dilemma? Thailand's 2020 Gen Z protests12
The Belt and Road comes to Papua New Guinea13
Uneasy embrace: Vietnam's responses to the U.S. Free and Open Indo-Pacific strategy amid U.S.–China rivalry14
Evolving Geo-strategic Dynamics16
Global reset: COVID-19, systemic rivalry and the global order
The Quad Factor in the Indo-Pacific and the Role of India17
Strategy18
"Logrolling" in Antarctic governance: Limits and opportunities
Small Island Strategies in the Indo-Pacific by Large Powers
Economy20
Improving supply chain resilience through preparedness

People, culture and ethics	21
A strategic leadership theory of military effectiveness: General Matthew Ridgway	
and the revival of the US Eighth Army in the Korean War	21
Gender Blindness in US Doctrine	22
Force Design	23
Cyber Capabilities and Multi-Domain Operations	
in Future High-Intensity Warfare in 2030	23
Cyber Maneuver and Schemes of Maneuver	24
Multiple Dilemmas: Challenges and Options for All-Domain Command and Control.	25
Eyes on target: 'Stay-behind' forces during the Cold War	26

A note from the Editors

Welcome to the second issue of the Future Land Warfare Branch's Spotlight Brief from the Australian Army Research Centre's (AARC). This issue has a focus on the region. The Indo-Pacific Region is vitally important. It is not only where we live, but also the place where the Australian Army and its people work cooperatively and collaboratively with our many allies, partners and friends to advance peace and security for all. This will be on display at the forthcoming <u>Chief of Army Symposium 2021</u> (CAS) in Brisbane. The CAS will see notable academics and leaders in their field present on topics within the overarching theme of 'Army in the region'. Alongside the symposium, the Army is conducting several invitation only activities germane to ensuring Army is not only ready now, but also future ready. These events will include:

- the Army Innovation Day 2021 (AID21). The AID21 challenge statement is titled 'Energy and environmental resilience' and is seeking proposals that complement and improve the energy and environmental resilience of the deployed land force.
- the *Army Robotics Exposition 2021,* to facilitate observation and demonstration of robotics and autonomous systems (RAS) concepts and technologies.
- the *Quantum Tech Challenge* (QTC), a one day event that will showcase quantum technology applications in the future operating environment.
- the *Junior Leader Forum* (JLF) will be an opportunity for selected soldiers to engage with Army's senior leaders and provide opinions and ideas on selected issues facing the Army, both present and future.
- the Senior Enlisted Conference (SEC), hosted by RSM-A, an event bringing together regimental sergeant majors and selected junior members.

We would also like to acknowledge the valuable feedback we received about the first issue of the *Spotlight Brief* – we appreciate all of your commentary and advice. We will use it to inform the continual development of the brief and other AARC products. A reminder – you can contact us via <u>lindsay.oconnor@defence.gov.au</u>, <u>mark.oneill1@defence.gov.au</u> or via the Australian Army's <u>Landpower Forum</u> website.

Regards,

Lindsay and Mark

Science, Technology and Industry

The Effectiveness of Armoured Vehicles in Urban Warfare Conditions

Defence Science Journal - Jan 21

The ever-increasing urbanisation of the world presages urban warfare as an enduring mission for land power in the future. This also drives the requirement for the effects that are presently only delivered by armoured vehicles in such an environment – direct firepower, protection, mobility and secure mobile nodes. To that end, the author utilises data from nearly 700 attacks in urban areas of Syria and Iraq to determine critical design features for armoured vehicles across five areas:

- structure
- ballistic protection and armour,
- self-defence and weapon systems,
- situational/peripheral awareness and command, control, communication, computer, information and intelligence capabilities, and
- systems and integrated warfare systems.

An interesting recommendation is that the push for all-in-one concepts should be discarded and specialised designs adopted. This tends to be the lesson of war, that generic designs morph into dedicated platforms, but there is an associated cost in complexity and money for a peacetime military to absorb. While the Australian Army of 2035 will have levels of mobility, firepower and protection unmatched in its history, there likely will still be the need to rapidly design and generate unique equipment that can fight and survive in areas of significant complexity.

Related:

<u>'Combined Arms in Urban Operations: Failure and Success in One Infantry Company',</u> <u>Infantry, Fall 2020</u>

'Recon and Security in the Urban Fight', ARMOUR, Fall 2020

<u>'Taiwan's Tanks Blend Into Urban Scenery Disguised As Diggers And Scrapheaps', Forbes,</u> 05 Nov 2020

'Russia's Urban Warfare Tech', Modern War Institute, 18 Sep 20

<u>'Russian-Manufactured Armored Vehicle Vulnerability in Urban Combat: The Chechnya</u> Experience', *Red Thrust Star*, Jan 97

Rethinking the Role of Remotely Crewed Systems in the Future Force

Center for Strategic and International Studies - Mar 21

Remotely crewed platforms are essential to Army's future concepts, as evidenced by the raising of the Robotic and Autonomous Systems Implementation Coordination Office and the significant funding boost for such platforms under FSP 20. While these ideas are new for ground forces, various air forces – including Army Aviation – have been operating with remotely crewed vehicles for years. This offers significant opportunities for comparing how the theory of integrating uncrewed platforms equates to practise; an issue that Todd Harrison explores in this article. While heavily USAF focused, there are interesting observations that may upset existing assumptions. Of note:

- Uncrewed systems still require roughly similar amounts of workforce to support; just in different areas
- Training for uncrewed operators should be separate from crewed platforms, allowing greater throughput
- The demand for crewed platforms does not decrease with an increase in uncrewed options
- Autonomy needs to be considered for times humans are not required to be in the loop; low latency communications are needed for when they are
- Reorganising units into larger, uncrewed organisations may offer significant benefits in training and fighting, despite our focus on distributing assets across traditional organisations, and may be essential for actually progressing the capability.

Related:

<u>'The Global Transition to Remote and Autonomous Operations', *Hydro International*, 15 Jan <u>21</u></u>

'Network-Centric Warfare: Can Europe be ready?', Wavell Room, 21 Dec 20

'UGVs are coming, but can they replace tanks?', Global Defence Technology, 02 Dec 20

'Autonomous weapon systems for the land domain', The Cove, 08 Oct 20

<u>'The Role of Autonomous Unmanned Ground Vehicle Technologies in Defense</u> <u>Applications', Aerospace and Defence Technology, 01 Oct 20</u>

Towards a Quantum Internet: Post-pandemic Cyber Security in a Post-digital World

Survival – 10 Feb 21

Quantum theory is a complex theory that simultaneously offers complexity and answers. Technologies based in this theory exploit the fundamental laws of nature to reach the ultimate limits of sensing, imaging, communications and computing, and thus promise otherwise impossible capabilities. When combined with other disruptive technology the possible opportunities become nearly infinite, with corresponding risk and opportunities. This article discusses one aspect of quantum technology: securing the increasingly widespread use of data networks. While there is a lot of public discourse on the ability of quantum computing to penetrate all existing cryptography; here David Gompert and Martin Libicki take the opposite view – using quantum technology to generate secure and responsive networks. Their view is Western nations have little choice than to pursue this based on the simultaneous increase in State-sponsored attacks, and COVID-19 pushing work away from workplaces. Critically for Australia, Gompert and Libicki's arguments that while the US can lead, they should build a consortium of allies (including us) lend weight to our increasing exploration of this field and what it can offer – or challenge – us with.

Quantum Computing's Cyber-Threat to National Security

PRISM – 2020

While quantum technology has great potential, it also brings significant strategic risk. With appropriate quantum technology for instance, all cryptographic systems can be broken, allowing a hostile actor access to everything from military communications to simple bank transfers. For the West, who have traditionally held a practical lead in signals intelligence and secure communications, this would be nearly unprecedented. The ability to read the other side's electronic communications was critical in facing Germany and Japan in the 1940s, the Soviet Union through to the 1990s and Al Qaeda in the 2000s. Complicating this is the fact that recordings can be made now and cracked later. With this in mind, quantum risks and opportunities are present now; not in some indeterminable future. For the Australian Army, this is one field we cannot afford to leave to others – we must be involved to ensure our material and personnel remain capable of fighting and achieving missions.

Related:

<u>'Quantum Science to Deliver Cutting-Edge Technology to Warfighters, Official Says', US</u> <u>Department of Defence, 23 Feb 21</u>

'Pentagon Trying to Manage Quantum Science Hype', National Defense, 10 Dec 20

'Quantum Technology: An introduction', Land Power Forum, 28 May 20

'Quantum Sensors: A Revolution in the Offing?', Optics and Photonics, Sep 19

'Quantum physics', New Scientist

Our Region

An analysis of counterterrorism measures taken by Indonesia since the 2002 Bali bombings

The Pacific Review – Jul 20

As much as a shock that the Bali bombings of 2002 were to Australians, the event and its long-term impact were even greater for the Indonesians. Coming at the start of the US 'War on Terror', there was significant pressure on Jakarta from Washington and Canberra to reform their domestic security posture and crack down on terrorist groups and supporters. Nearly 19 years on, Kathrin Rucktäschel and Christoph Schuck's work looks at the counterterrorism measures taken and their long term effectiveness. They find some long term success, notably the establishment of the Badan Nasional Penanggulangan Terorisme (National Counter Terrorism Agency) and the police force's success with establishing a criminal justice model for the fight. With jurisdictional squabbles between the police and military as background, Rucktäschel and Schuck find three key concerns: a lack of will to be those responsible for coordinating CT responses; the questionable success of pre-emptive de-radicalisation programs, and a disconnect between the State's means of fighting terrorism and the principles of a democratic, constitutional State.

Related:

<u>'Terror cells in Indonesia continue to recruit and plot attacks amid COVID-19', Channel News</u> <u>Asia, 18 Jan 21</u>

<u>'IS replication in Indonesia and counterterrorism after the Sigi attack', East Asia Forum, 09</u> Jan 21

<u>'Indonesia: Jemaah Islamiah still 'massively' sowing seeds of radicalism', *The Australian*, 22 <u>Dec 20</u></u>

<u>'Indonesia, Australia boost bilateral ties in counterterrorism, security', *The Jakarta Post*, 28 Oct 20</u> <u>'Indonesia's 'Soft Approach' against Terrorism Vetoed by US, So What's Next?', Jakarta</u> <u>Globe, 18 Sep 20</u>

Disaster governance and prospects of interregional partnership in the Asia-Pacific

The Pacific Review – Nov 2020

Consistently in various reports and reviews, most notably the World Risk Report, Oceania has the highest risk of natural disasters. Half of the top ten 'most at risk countries' lie within Australia's region. This is of ongoing and significant impact to Australia and the ADF as the ADF is one of the few organisations in the region with the ability to react rapidly and comprehensively to needs arising from humanitarian and disaster response (HADR). In this article, Alistair D. B. Cook and Christopher Chen explore what intergovernmental organisations conduct disaster response within south-east Asia and the south-west Pacific to see if there is any scope for partnership. They find, despite some internal challenges, it is possible for the Pacific Islands Forum (PIF) and the Association of Southeast Asian Nations to develop an inter-regional partnership that builds on pre-existing elements. Notwithstanding the possible impact of recent internal tensions within the PIF, the potential of such partnership is of interest for all agencies involved in regional HADR.

Related:

<u>'Humanitarian preparedness and response'</u>, *Department of Foreign Affairs and Trade*, 21 <u>Dec 20</u>

WorldRiskReport 2020', Bündnis Entwicklung Hilft, 2020

<u>'Southeast Asia-China cooperation in disaster management in post-COVID era', S</u> <u>Rajaratnam School of International Studies, Sep 20</u>

<u>'Tackling Regional Climate Change Impacts and Food Security Issues: A Critical Analysis</u> across ASEAN, PIF, and SAARC', *Sustainability*, Jan 20

'ASEAN Vision 2025 on Disaster Management', ASEAN, 25 Jan 18

Engagement of China and India in the Western Indian Ocean littoral and island states of East Africa

Journal of the Indian Ocean Region - Mar 2021

While Australian's place significant focus on Southeast Asia and the Southwest Pacific, we sometimes are forgetful we are an Indo-Pacific state, and may overlook the first half of that phrase. The Indian Ocean is a vital area of interest for Australia, providing vital trade access to the Middle East and Europe as well as offering a key flank to our Southeast Asian partners. Aparajita Biswas, using the example of increasing Chinese and Indian presence and tension, offers an extremely thorough article introducing issues with the Indian Ocean islands and Eastern Africa. She touches on the role of the Indian Navy, China's Belt and Road Initiative and the competition between Indian private and Chinese public companies providing investment. Of note, the competition for influence seen in our eastern sphere of interest is occurring to a similar level and extent in the west.

Related:

'It is time to reimagine the Indian Ocean', Hindustan Times, 30 Mar 21

What Is Happening in the Indian Ocean?', *Carnegie Endowment for International Peace*, 03 <u>Mar 21</u>

<u>'Countering Chinese assertiveness: India's changing posture in the Indian Ocean', Observer</u> <u>Research Foundation, 02 Jan 21</u>

'Seychelles in crosshairs of India's maritime security axis?', Nikkei Asia, 11 Dec 20

<u>'Western Indian Ocean: Where trouble on land spells danger at sea', *The Interpreter*, 29 Oct 20</u>

The Elusive Quest for an 'Asian NATO'

Strategic Analysis - Dec 20

NATO stands as one of the great defensive alliances of history, providing a significant political and military bulwark against an authoritative power. With the rise of strategic

competition in the Indo-Pacific, there has often been discussions about an Asian equivalent of NATO. What this discussion overlooks, and Dr Jagannath Panda makes clear, is that there are three underlying concepts that pundits appear to miss: geography, security and economy. The first relates to the sheer size of the Indo-Pacific region. Conservatively Western Europe is only 30% the size of Asia or a mere 10% the size of the Indo-Pacific. To generate a clear, focused defensive strategy over such an area with that many nations would be a challenge, even assuming there was agreement on a common threat. Which leads to Dr Panda's second point: who would the Asian NATO be defending against? Member nations of the hypothetical organisation have many more security challenges (including with each other) than NATO has faced. While an 'obvious' answer may be China, the reality is that the economic relationship with China for Asian nations is much more complex than any Western European nation had with the USSR. China is a major, and essential, trading partners for many nations. The final sticking point Panda highlights is the cost: Asian nations do not have the expenditure vs threat perception Western Europe had to raise a NATO-esque organisation.

Related:

<u>'Meeting of leaders signals the 'Quad' grouping will become central part of the U.S. strategy</u> in Asia', *The Washington Post*, 14 Mar 21

'Propelling 'Asian NATO' beyond US capacity', Global Times, 13 Mar 21

'Vietnam's Sole Military Ally', The Diplomat, 21 Dec 20

<u>'Is the Asia-Pacific Big Enough for ASEAN and the Quad?', Australian Institute of</u> <u>International Affairs, 12 Nov 20</u>

<u>'Japan's Suga dismisses concern over 'Asian NATO' in Indo-Pacific', in *The Jakarta Post*, 22 Oct 20</u>

Disruptors' dilemma? Thailand's 2020 Gen Z protests

Critical Asian Studies - 02 Mar 21

Street protests within Thailand have been a fact since the 1950s, often with the military stepping in to restore order. This has become almost ritualised, with two common themes

present since 2005: the red-yellow shirt divide, and a consistent veneration of the monarchy. In 2020, while the world was focused on COVID, these two themes were shattered, as the Thai political scene saw an unprecedented swell of anger from those under 25. These efforts, while disjointed, were widespread and saw at least 385 protests, led by 112 groups, across 62 of the nation's 77 provinces in less than six months. The article notes this behaviour is at odds with that seen in other mass movements, such as the Arab Spring. It may also mark emergence in how Thailand's political movements function.

Related:

<u>'Thailand's Military Personnel Challenge in the Spotlight with Slimming Plan', *The Diplomat*, <u>16 Mar 21</u></u>

'Behind the Australia-Thailand Strategic Partnership', East Asia Forum, 27 Jan 21

'Where is Thailand's protest movement heading?', Deutsche Welle, 27 Jan 21

'Thailand Protests at a Tipping Point', The Diplomat, 17 Nov 20

'Thailand: Military, monarchy and the masses', The Interpreter, 28 Oct 20

The Belt and Road comes to Papua New Guinea

Security Challenges - Nov 20

Discussion of the PRC's 'Belt and Road Initiative' is widespread but there is little detail on what the meaningful change on the ground is for nations. Here, the former director of the AARC, Peter Connolly looks at Papua New Guinea before, during and after the joining of the BRI. He highlights that it is not a simple concept, and while not a win—win as Beijing portrays it as, there is a common view that China is the only nation offering the infrastructure upgrades that PNG desperately needs. Connolly draws heavily upon local interviews, increasing the veracity of his work. He finds that since joining, and especially since COVID, PNG and the other Melanesian States have started to display a nascent assertiveness in standing up to unfair Chinese encroachments as well as a more wide-eyed understanding of the non-economic costs that the BRI imposes. There are still issues of corruption and disconnects at various levels, PNG voting to support China's crackdown on Hong Kong

being offered as an example), but the lessons and the views raised by Connolly are vital to those seeking to understand our region or China.

Related:

<u>'Next step in the step up: The ADF's role in building health security in Pacific Island states',</u> <u>ASPI, 08 Apr 21</u>

<u>'Economic diplomacy: Deploying soft power and the future of trade', *The Interpreter*, 25 Mar <u>21</u></u>

'Development assistance in Papua New Guinea', Department of Foreign Affairs, 24 Mar 21

'Fiji and PNG: no room to move on COVID-19', Devpolicy Blog, 25 Feb 21

'Belt and Road brings China to PNG and our doorstep', The Australian, 05 Feb 21

Uneasy embrace: Vietnam's responses to the U.S. Free and Open Indo-Pacific strategy amid U.S.–China rivalry

The Pacific Review – Mar 21

Traditionally, Vietnam follows an isolationist path for its strategy, preferring to share interests but not commit to alliances (beyond Laos). Furthermore, for most of their modern history they have been at war or under significant tension with the US. Despite that, the past decade has seen real strides in Vietnam partnering with the US for regional stability. This article reviews Vietnam's approach to the US-proposed Free and Open Indo-Pacific (FOIP), and how it has elected to respond. This response has not been predictable, it is much more receptive to the FOIP than may be first thought and yet it simultaneously will not provide its full support. This approach has seen Hanoi select which parts of the FIOP it will prioritise, allowing a deft navigation of Great Power rivalries while maintaining national identify and keeping positive relationships with other neighbours.

Related

<u>'U.S., Vietnam Interests 'Aligned' Amid Some Tensions, Says U.S. Envoy', *Bloomberg*, 05 <u>Mar 21</u></u>

'Is Vietnam open to Washington's Indo-Pacific strategy?', East Asia Forum, 04 Mar 21

'What Does Vietnam Want from the US in the South China Sea?', The Diplomat, 04 Jan 21

<u>'Caught between giants — How will ASEAN operationalise its centrality in the Indo-Pacific?',</u> <u>Observer Research Foundation, 28 Dec 20</u>

'Vietnam's Sole Military Ally', The Diplomat, 21 Dec 20

Evolving Geo-strategic Dynamics

Global reset: COVID-19, systemic rivalry and the global order

Research in Globalization - Dec 20

One of the surprises from the COVID-19 pandemic in 2020 was the failure of strong Western nations to minimise or control the spread of the disease. This has complicated their standing within the world, a standing already under pressure from rapid economic and military growth in Asia. Dunford and Qi suggest one potential outcome of this, with a reset of the international order now focused on Beijing and aided by Washington's actions in response to the pandemic. As it stands, the West's poor reaction comes on the end of a decade of financial and technological shake-up that has further shifted the balance of power from its traditional location alongside the Atlantic. The article suggests COVID-19 has accelerated this shift, bringing the so-called 'rules-based' global order of the last few decades to an end sooner than was expected, reintroducing bipolar or multipolar competition. Dunford and Qi further explore this by highlighting what they see as the steps taken by Beijing to aid other nations, especially within Asia and Africa, and the advantages that the Belt and Road Initiative bring.

Related:

'A Moral Failure in Pandemic Response', Center for Global Development, 08 Mar 21

<u>'The COVID-19 Pandemic and Geopolitics in Southeast Asia', Australian Strategic Policy</u> <u>Institute, 27 Jan 21</u>

'The next wave of globalization: Asia in the cockpit', Nikkei Asia, 13 Jan 21

'The World After the Coronavirus', Foreign Policy, 02 Jan 21

'The Pandemic and Power Shifts in Asia', The Diplomat, 20 Oct 20

The Quad Factor in the Indo-Pacific and the Role of India

Journal of Indo-Pacific Affairs - Mar 21

The Quadrilateral Security Dialogue has seen a significant growth in importance in the past six months, as despite pressures from COVID the leaders of Japan, India, Australia and the US push ahead with virtual and in-person meetings. Focused on the commitment to a free and open Indo-Pacific and acknowledgement of the importance of the two oceans from a global point of view, the Quad has also taken the opportunity to target non-traditional threats – most obviously COVID. While all four nations bring significant capabilities to the Quad, India is generally an unknown to many in Australia. This article provides a detailed description as to what India provides the Quad and what New Delhi is likely to seek or offer. The Quad is not a new NATO, but compared to the earlier article (above) about the elusive Asian NATO, the Quad offers key multilateral fora that can pursue enhanced security partnerships and combat a range of traditional and non-traditional threats.

Related:

'Explained: What is the Quad and why does it matter to India', Times of India, 07 Apr 21

<u>'The Quad: What It Is – And What It Is Not', The Diplomat, 24 Mar 21</u>

<u>'The First Summit Quad Meeting Reaffirms a Free, Open, and Secure Indo-Pacific',</u> <u>Australian Institute of International Affairs, 19 Mar 21</u>

<u>'In 'Historic' Summit Quad Commits to Meeting Key Indo-Pacific Challenges', The Diplomat,</u> <u>13 Mar 21</u>

<u>'Quad Leaders Announce Effort To Get 1 Billion COVID-19 Vaccines To Asia', NPR, 12 Mar</u> 21

Strategy

"Logrolling" in Antarctic governance: Limits and opportunities

Polar Record – Dec 20

In this article, McGee, Carpi and Jackson offer two simultaneous areas of consideration: addressing China's increasing international influence and assertiveness regarding the Antarctica Treaty, and providing a case study in 'log-rolling' as a strategic approach. The former is of increasing importance to Australia given we have significant responsibilities and interests in Antarctica. Matters which undermine either the intent or letter of the Antarctica Treaty are concerning. They may require Australian policy and diplomatic attention. 'Log rolling' is where members (in this case, China) trade favours to achieve passage of their agenda. While the authors use Antarctica as their exemplar, the opportunities and risks they discuss may also apply to other scenarios. Critically, such an approach can lead to the erosion in norms and strengths of the rules that govern a relationship or institution.

Related:

'Strategy and Competition at the Ends of the Earth', War on the Rocks, 06 Jan 21

<u>'The Worrying Geopolitical Implications of Australia's Antarctic Airport Plan', *The Diplomat*, <u>06 Jan 21</u></u>

With New Gear And Bases, China Is Beginning To Make A Play For Dominance In Antarctica', *Forbes*, 23 Dec 20

<u>'Australia's Antarctic Frontier: Our Unchecked Indo-Pacific Strategic Faultline', Land Power</u> <u>Forum, 29 Sep 20</u>

'Logrolling', Wikipedia

Small Island Strategies in the Indo-Pacific by Large Powers

The Journal of Territorial and Maritime Studies - Winter/Spring 21

The wars of the Indian and Pacific Oceans throughout history are linked with their islands as much as their continental littorals. Islands offer a permanent foothold in a precarious watery domain, can be used to control swaths of ocean (with corresponding economic and security benefits), or provide access rights. While there is a belief that any future conflict in the Indo-Pacific region will be unlike previous ones, islands retain geopolitical-economic significance germane to conflict. In this article, Scott reviews how major players in the Indo-Pacific (US, China, France, India, and Japan) use islands, including looking at some of the paradoxes their behaviour generates. The author further examines the complication of islands that can appear (by being built) or disappear (through climate change). His findings that islands will retain their importance highlights the need for ongoing development of amphibious and littoral manoeuvre capability by land forces.

Related:

'Agalega: A glimpse of India's remote island military base', The Interpreter, 02 Mar 21

'The Growing Importance of Guam', Signal, 01 Feb 21

'Japan could misread US' Diaoyu Islands intentions', Global Times, 25 Jan 21

<u>'Indo-Pacific Island States: Vulnerabilities in the Age of COVID', Australian Strategic Policy</u> <u>Institute, 27 Oct 20</u>

<u>'France, the Other Indo-Pacific Power', Carnegie-Tsinghua Centre for Global Policy, 21 Oct</u> 20

Economy

Improving supply chain resilience through preparedness

Security Challenges - Oct 20

Increasingly discussed prior to 2020, COVID-19 brought Australia's vulnerability to trade disruption into stark reality. Until recently, there has been little from a Departmental (any Department) or overall Government side that has sought to understand our supply chain vulnerabilities and potential mitigation. The disruption of supply chains due to the pandemic has highlighted how these failures exacerbate security tensions. The recently released Inquiry into the implications of the COVID-19 pandemic for Australia's foreign affairs, defence and trade by the Commonwealth Parliament highlighted four key markets with potential disruption: critical minerals, defence industry, medical supplies and fuel. Andrew Dowse and John Blackburn consider these four, along with ICT, to focus on impacts to Defence, revise a risk management approach, and describe how Defence can work with other Departments to prioritise and improve Australia's overall resilience.

Related:

<u>'Italy's block on AstraZeneca COVID-19 vaccines prompts warning against 'vaccine</u> <u>protectionism' from Australian government', *ABC News*, 09 Mar 21</u>

'Rethinking national and global supply chains', The Strategist, 15 Dec 20

<u>'Inquiry into the implications of the COVID-19 pandemic for Australia's foreign affairs,</u> defence and trade', *Joint Standing Committee on Foreign Affairs, Defence and Trade*, Dec <u>20</u>

'How to build more secure, resilient, next-gen U.S. supply chains', Brookings, 03 Dec 20

<u>'Australia-Japan-India Trilateral Sets Sights on Supply Chain Resilience', The Diplomat, 02</u> Oct 20

People, culture and ethics

A strategic leadership theory of military effectiveness: General Matthew Ridgway and the revival of the US Eighth Army in the Korean War

Australian Journal of Defence and Strategic Studies – Dec 20

Strategic leadership is critical to a military, but is a concept that can be difficult to grasp or define. An increase in tactical focus takes attention from understanding the role of strategy and the key elements that make up such strategic leadership. Meiser uses three building blocks – strategy, leadership and military effectiveness – to articulate and test the importance of strategic leadership, the role of people in creating and executing strategy and better ways of incorporating the impact of leadership on military effectiveness, including advancements in professional military education.

Related:

'Towards Strategic Leadership', ANZSOG, 2021

'We Need To Rethink Strategic Leadership', Forbes, 21 Jan 21

'Leadership in an age of artificial intelligence', Defence in Depth, 02 Dec 20

<u>'More Than A "Given:" Professionalizing Military Strategic Leadership', Small Wars Journal,</u> 01 Nov 20

<u>'General Matthew B. Ridgway: Attributes of Battle Command and Decision-Making', Naval</u> <u>War College, 13 Feb 98</u>

Gender Blindness in US Doctrine

Parameters – Winter 2020

Comparing and contrasting US, NATO and Australian doctrine with respect to gender within planning offers an opportunity to benchmark against our allies and continue self-assessment. Prescott describes the – unchanged – importance of including gender within a military planning process and highlights that ADF Joint doctrine is arguably world leading in doing so within kinetic and non-kinetic operations. He also highlights a disconnect between the Australian Joint and Land approaches (contrasting JDN 2-18, *Gender in Military Operations* with LWD 3-8-6, *Civil-Military Cooperation*) that, while complimentary, suggests the Australian Army should consider reviewing to ensure it includes essential considerations within its planning process.

Related:

Women, Peace, and Security: Is DOD Turning a Human Rights Corner?', Just Security, 17 Feb 21

'Gender Blindness in US doctrine', Decisive Point, 15 Dec 20

<u>'Policy Roundtable: How Gender Affects Conflict and Security', Texas National Security</u> <u>Review, 27 Oct 20</u>

<u>'Back to the basics: Gender blindness negatively impacts security'</u>, *Our Secure Future*, 03 <u>Mar 17</u>

'Practical guidance for gender-sensitive conflict analysis', UN Peacemaker

Force Design

Cyber Capabilities and Multi-Domain Operations in Future High-Intensity Warfare in 2030

NATO Cooperative Cyber Defence Centre of Excellence – Dec 20

Western militaries have spent decades attempting integration of maritime, land and air domains, yet still run into misunderstandings and issues that undermine our ability to operate as a joint force. Despite rapidly growing demand to operate beyond the physical domains, cyber suffers similarly, exacerbated by its newness and opacity to those not familiar with the capabilities offered. In order to better integrate cyber into the future military, the NATO Centre of Excellence identifies three key requirements the force must achieve:

- A fully digitally integrated force that uses AI to enable command and control
- Integration between formation HQ and higher with equivalent cyber commands
- Command with decentralised decision making and execution

With these in place, it reviews US, UK and German efforts and provides a set of recommendations for technical capabilities, organisational structures and doctrinal changes that should occur.

Related:

'Russian Cyber Strategy', Small Wars Journal, 14 Feb 21

<u>'Defending Forward in the Cyber Domain', Foundation for the Defense of Democracies, 15</u> <u>Dec 20</u>

<u>'Op-Ed: Artificial intelligence and the future of command & control', *Defence Connect*, 30 Nov 20</u>

<u>'More aggressive and less ambitious: Cyber Command's evolving approach;</u> *War on the* <u>*Rocks*, 14 Sep 20</u> <u>'Inside Project Convergence: How the US Army is preparing for war in the next decade',</u> <u>Defense News, 10 Sep 20</u>

Cyber Maneuver and Schemes of Maneuver

The Cyber Defense Review - Nov 2020

Our familiarity in operating in physical domains affords a common lexicon allowing us to describe easily desired effects and actions. Professionals readily understand the differences between "clear the objective" and "destroy the enemy on the objective" despite apparent similarity, as well as fires that "supress" or obstacles that "block". While attempts have been made to use these to describe cyber activities, the non-physical elements of cyber require different thinking and new terms to describe manoeuvre and supporting effects. Dr Allen seeks to provide a list of verbs and effects easily understood by non-technical personnel, while providing clear direction to technical personnel. They encompass the wider scope of operations and may be adaptable to current Australian doctrine.

Related:

<u>'Differentiating Kinetic and Cyber Weapons to Improve Integrated Combat', Joint Forces</u> <u>Quarterly, Nov 20</u>

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<u>'Doctrinal Confusion and Cultural Dysfunction in the Pentagon Over Information and Cyber</u> <u>Operations', *Lawfare*, 27 Mar 20</u>

<u>'Tactical Maneuver In The Cyber Domain: Dominating The Enemy – Analysis', EurAsia</u> <u>Review, 05 Jun 19</u>

'Training Cyberspace Maneuver'. Small Wars Journal, 15 Jun 18

Multiple Dilemmas: Challenges and Options for All-Domain Command and Control

<u>RAND</u> – 2020

Commissioned by the US Air Force, and hence US and air-focused, this RAND report reviews their command and control construct to determine impediments when engaged with a near-peer competitor and what changes would be needed to improve. The author's conclusions are of interest for the ADF, key among them being:

- specific concepts for MDO are still emerging (so it is not yet clear what changes are most important or how beneficial such changes would be),
- operational planning is currently component-centred, creating the risk of insufficient expertise in all domains and a preference for solutions in certain domains,
- single-service initiatives cannot resolve command and control impediments that involve forces from multiple combatant commands or services,
- and operations that rely on command and control for planning, approval or execution that lie outside the theatre may be particularly vulnerable when communications are contested.

RAND's primary recommendation is there needs to continue to be significant work to develop operational concepts, then build suitable command and control models to war game and analyse in order to find the best solution. RAND further identifies a need for planners to have better understanding of cyber and space capabilities. Consideration also needs to go into what we expect our command and control network to do – and if the desire to network everything poses unacceptable risks when a threat contests the electromagnetic spectrum or creates decision or analysis paralysis.

Related:

'Future Battlespace Management', Joint Air Power Competence Centre, 19 Feb 21

'How To Make The Third Offset Real: The Combined JADC2', Breaking Defense, 05 Feb 21

'JADC2 May Be Built To Fight The Wrong War', Breaking Defense, 14 Jan 21

'Challenges Loom for Joint All-Domain Command, Control', National Defense, 08 Dec 20

'JCN 1/20 - Multi-Domain Integration', Ministry of Defence, Nov 20

Eyes on target: 'Stay-behind' forces during the Cold War

War in History - Dec 20

When faced with an overwhelming force, many nations revert to the use of stay behind force to conduct intelligence gathering, targeting and small raids. Similarly, small teams are used to operate behind front lines. Australia is no stranger to this concept, with Z Special Unit, M Special Unit, Commandos, and the Coastwatchers being vital parts of the Allied war effort in the Pacific. In looking through NATO's stay behind assets during the Cold War, Tamir Sinai highlights a number of considerations and issues that would still need to be considered for such forces in the future. His finding that secure communications were the Achilles heel of these elements is likely to remain the case against a peer threat who can contest the electromagnetic spectrum. Additionally, the overlapping areas of responsibility between civilian agencies, conventional forces and Special Forces all require as close attention now, as does the need to have forces easily deployed or permanently forward. It is Sinai's final paragraph that holds the gem for the ADF though; that specialist stay behind forces (or indeed, covertly inserted teams) are an important asset when it comes to targeting conventional strikes. For the Australian Army, that is increasing its striking range through the current FSP to unprecedented levels, the ability to accurately target these assets at range may demand consideration of something similar.

Related:

<u>'The Coastwatchers: intelligence lessons learned for the future single naval battle', Center</u> <u>for International Maritime Security, 31 Mar 21</u>

'The untold story of Z Special Unit', 2GB, 07 Mar 21

'Commandos Confront a World After the Forever War', The Diplomat, 25 Feb 21

<u>'Long-distance and secure quantum key distribution (QKD) over a free-space channel',</u> <u>*Phys.org*, 25 Jan 21</u> <u>'Improved Sensors are Critical to the Army's Long-Range Artillery Modernization', *The* <u>National Interest</u>, 22 Jan 21</u>