



**Australian Army  
Research Centre**

# Spotlight Brief

**No. 3, 2021**

**Edited by Mark O'Neill and Lindsay O'Connor**



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## Our Region

### **Ansar Al-Sunna Mozambique: Is It the Boko Haram of Southern Africa?**

Journal of Applied Security Research – Feb 21

Australia's national security attention rightly often focuses to the north. Increasingly, our use of the 'Indo-Pacific' to describe of region of interest requires greater awareness of the Indian Ocean region and security concerns within and around it. This includes awareness of Africa, where Great Power competition is playing out, along with other threats and opportunities. Mozambique is currently experiencing the rise of a radical Islamic insurgency in its north. Australia has links to Mozambique through membership of the Commonwealth, some resources-led enterprise (primarily export of over \$AS670 million of Alumina Ore per year) and previous support to the United Nations Operation in Mozambique (Op CORACLE).

#### **Related:**

'Foreign fighters and the trajectory of violence in northern Mozambique', *War on the Rocks*, 13 Apr 21

'Mozambique: Why IS is so hard to defeat in Mozambique', *BBC News*, 31 Mar 21

'Mozambique conflict: Why will one million people have been forced to flee their homes?', *Sky News*, 29 Mar 21

'Mozambique's extremist violence poses threat for neighbors', *Deutsche Welle*, 29 Mar 21

'ASWJ: What we know', *Stable Seas*, Dec 20

## **Time for a reckoning: Missiles have flown under the radar for too long in Asia**

The International Institute for Strategic Studies – Apr 21

Missiles proliferation within the Indo-Pacific Region is on the rise. This research paper looks at the rise in numbers, capability and type of missiles within the Indo-Pacific region, including those ‘traditional ballistic missiles’ of the nuclear powers, but also other nations purchasing ballistic, cruise and hypersonic platforms. It offers broad frameworks for various options for missile control, cognisant of the fact that greater political and geostrategic areas are at play. It highlights the rapidly changing regional missile environment as a possible flash point.

### **Related:**

‘Cracking the missile matrix’, Australian Strategic Policy Institute, 22 Apr 21

‘Asia’s growing missile arsenals demand a response’, The Japan Times, 06 Apr 21

‘Threat Under the Radar: The Case for Cruise Missile Control in the Next National Security Strategy’, Real Clear Defense, 02 Apr 21

‘Hypersonic and directed-energy weapons: Who has them, and who’s winning the race in the Asia-Pacific?’, Defense News, 15 Mar 21

‘Philippines signs agreement with India for world’s fastest supersonic missiles’, The Straits Times, 03 Mar 21

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# Evolving Geo-strategic Dynamics

## Conflicts to Come: 15 scenarios for 2030

European Union Institute for Security Studies – Dec 20

Force design, while unable to predict exactly, demands practitioners understand likely future scenarios and, despite the complication of the unknown, their consequential needs. What is particularly useful is to consider a range of possible futures, for if a force can do all required roles in many possible scenarios there is a higher likely correlation with force design success. Furthermore, understanding a range of scenarios allows force designers to avoid paralysis or a slow response generated by 'black swan' events. This paper is interesting as it steps outside the 'Five Eyes view' of future threats and conflicts. The EU Institute for Security Studies presents fifteen scenarios for conflict in the future, across three types of conflict:

- An uprising or insurgency of the people
- Large scale conventional war, and
- Conflict as a result of disruptive technology

### Related:

'Strategic Foresight: Shaping Germany's Post-Pandemic Future',  
*Global Public Policy Institute*, 16 Apr 21

'What's Missing in the New Cold War Stories?', *The Diplomat*, 24 Mar 21

'Future Scenarios: Clarifying The Possible', *Echos – School of Design Thinking*, 13 Mar 21

'10 Conflicts to Watch in 2021', *International Crisis Group*, 30 Dec 20

'Some scenarios for the South China Sea in 2021', *Asia Times*, 23 Dec 20



## **Great Power Narcissism and Ontological (In)Security: The Narrative Mediation of Greatness and Weakness in International Politics**

International Studies Quarterly – Feb 21

To understand State identities, a common basis of thought is that the identity emerges after a stabilisation of narratives into a coherent and consistent entity. The reality is that this does not occur, with the development of self-representations of weakness simultaneous with ones of greatness – an apparent contradictory position. A classic Australian example would be the work done to restore Cricket Australia's image after a major ball-tampering incident in 2018. Here, Linus Hagström advances a theory that psychological studies into narcissism can explain State behaviour – especially those of Great Powers. He reviews state behaviour through four forms (shame, pride, denial and insult), to illustrate his hypothesis. He finds adapting such a model offers new approaches for understanding international relations.

### **Related:**

'Beyond Nation-Building: European National Histories Seen From Their Margins', *Hypotheses*, 26 Apr 21

"Seizing Weakness": The Geopolitical Dimension of U.S.-China Relations', *Real Clear Defense*, 06 Mar 21

'The Rise and Fall of Great Powers?', *Council on Foreign Relations*, 01 Mar 21

'Strengths and weaknesses of the principal competitors', *Atlantic Council*, 16 Dec 20

## The Geopolitics of State Recognition in a Transitional International Order

Geopolitics – Apr 21

Quasi-States that seek international recognition as independent, sovereign States are often a point of tension regionally and internationally. In this work, Edward Newman and Gëzim Visoka look at how the shift to a multipolar world with growing Great Power competition influences and shapes State recognition. It explores the two simultaneous yet possibly contradictory states: that the fragmentation of the rules based global order makes State recognition harder, yet the politics of Great Power competition may make recognition easier as one nation uses proto-States against another.

### **Related:**

'The explainer: The EU's Kosovo awkward squad', *Emerging Europe*, 03 Feb 21

'What if the world was one country?', *The Conversation*, 15 Jan 21

'Does international recognition matter?', *polity*, 03 Jan 21

'Why Arab states are recognising Israel', *The Strategist*, 14 Dec 20

'Morocco latest country to normalise ties with Israel in US-brokered deal', *BBC News*, 10 Dec 20

## How democracies prevail: democratic resilience as a two-stage process

Democratization – Apr 21

The second half of the twentieth century saw unprecedented growth in democratic States, although since 2005 there has seemingly been a reduction of political and civil rights along with an upswing in nationalist and populist political sentiment. Within the Indo-Pacific region, there are a number of fragile democracies and nations with recent experience of military coups. This article challenges commonly perceived reasons for democracy failure. It finds the breakdown of resilience within a democracy has two stages: increasing autocratisation and, once autocracy has taken over, reversal of the breakdown. It also finds economic development may not be as key as previously thought, but exemplar democratic neighbours and previous experience with democracy have much greater influences.

### **Related:**

'Why supporting resilient political systems is key to a successful Biden democracy agenda', *Brookings*, 26 Jan 21

'The risks to Australia's democracy', *Brookings*, 22 Jan 21

'Indo-Pacific election pulse 2020: Taiwan, Singapore, New Zealand, Myanmar and the United States: Views from The Strategist', *Australian Strategic Policy Institute*, 10 Dec 20

'COVID-19 Accelerates Democratic Regression in Southeast Asia', *Australian Institute of International Affairs*, 09 Dec 20

'Taking Stock of Regional Democratic Trends in Asia and the Pacific Before and During the COVID-19 Pandemic', *International Institute for Democracy and Electoral Assistance*, Dec 20

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## Strategy

### Information Weapons: Russia's Nonnuclear Strategic Weapons of Choice

The Cyber Defense Review – Dec 20

The increased focus on deterrence suggests closer study in how our systems and capabilities can achieve it. Russia offers an unlikely exemplar, especially in the immediate post-Cold War phase. When confronted with an undented NATO and a shambolic internal economy, Russia turned to information warfare as a strategic tool. In the three decades since Russia has refined and expanded its understanding and use of information warfare to a level where they believe it can sit alongside nuclear weapons and other strategic capabilities. While their definition of information warfare is wider than that employed within the FVEY community, and they use some techniques probably unacceptable to the ADF, there is still value in understanding and drawing lessons from the example.

#### **Related:**

'War in All but Name', *The Strategy Bridge*, 26 Apr 21

'Striking the right balance: how Russian information operations in the Baltic States should inform us strategy in Great Power competition', *Modern War Institute*, 12 Apr 21

'Towards an AI-Based Counter-Disinformation Framework', *RAND*, 29 Mar 21

'The Reality of War Should Define Information Warfare', *Proceedings*, Mar 21

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

## **Roundtable: Thucydides's Trap? Historical Interpretation, Logic of Inquiry, and the Future of Sino-American Relations**

International Security Studies Forum – Nov 20

This is a different type of article, consisting of six reviews of Steve Chan's book *Thucydides' Trap, Historical Interpretation, Logic of Inquiry, and the Future of Sino-American Relations* and a rebuttal / discussion of the reviews from the author. Reading Chan's book is not required to appreciate this article; the introduction provides significant detail and situates it within the current strategic environment. At its base, it scrutinises two foundations of the US-China relationship: Graham Allison's 'Thucydides Trap' and A.F.K. Organski's power transformation theory. The six reviewers all differ as to how much Chan exposes structural issues with either theory, but the discussion provides a new way of reviewing power transfers. This article does not provide definitive answers, it stimulates new paths for consideration.

### **Related:**

'Escaping Thucydides' Trap: Keeping the Peace Between Rising and Reigning Powers', *Fair Observer*, 05 Apr 21

'Trapped by Thucydides? Updating the strategic canon for a Sino-centric era', *War on the Rocks*, 28 Dec 20

'Who is afraid of Thucydides?', *Expertise Asia*, 07 Dec 20

'Thucydides paradox a trap for the Aussies', *Global Times*, 04 Dec 20

'Oh God, Not the Peloponnesian War Again', *Foreign Policy*, 28 Jul 20

## **Providing Stability and Deterrence: The US Army in INDOPACOM**

Parameters – Mar 21

With the shift of US attention to the Indo-Pacific region, the US Army must become a more effective enabler for the Joint Force. This article provides two major ways that the US Army can do this: developing its long range and precision strike capabilities, and augmentation of the Quad's military capabilities. In understanding how the US Army is, and may, shift its priorities, we may help optimise our own force, as well as identifying where the best points of integration lie.

### **Related:**

'Army Competing Every day in Indo-Pacific, Senior Leaders Say',  
*US Indo-Pacific Command*, 07 Apr 21

'Army Not Trying to Muscle In on Marine Corps' Mission in the Pacific, General Says', *Military.com*, 30 Mar 21

'Overmatch is fleeting: How the US Army's multidomain task force will help the military remain dominant', *Defense News*, 24 Mar 21

'Land Forces Are Hard To Kill': Army Chief Unveils Pacific Strategy',  
*Breaking Defense*, 23 Mar 21

'Army Multi-Domain Transformation', *US Army*, 16 Mar 21

## **The ambiguity of hybrid warfare: A qualitative content analysis of the United Kingdom's political-military discourse on Russia's hostile activities**

Contemporary Security Policy – Feb 21

A vital part in any discussion, debate or study is a clear understanding of the underpinning terminology. While Frank Hoffman provided the first definition of hybrid warfare in the West, this soon became complicated after an article 'quoting' General Valery Gerasimov. The definition has expanded and shifted to become almost cliché. Silvie Janičatová and Petra Mlejnková's analysis of British political and military works that relate to perceived use of hybrid warfare by Russia highlights this. Interestingly, 'hybrid warfare' was just one of many terms to describe Russian activities. Post 2014 this tends to shift to use of 'hybrid warfare' to describe non-military actions, not those by the armed forces. Janičatová and Mlejnková find that 'hybrid warfare' has lost value as a term thanks to this variety. While a general, recognised definition would be helpful, there are better ways to discuss contemporary warfare. A key recommendation from that is the increased importance of framing discussion about specific components of warfare (for example, cyber warfare) as opposed to vague generalities.

### **Related:**

'The Blurring Of War And Peace: Hybrid Warfare – Analysis', *Eurasia Review*, 19 Apr 21

'Striking the right balance: how Russian information operations in the Baltic States should inform us strategy in Great Power competition', *Modern War Institute*, 12 Apr 21

'The Rhetoric vs the Reality: Understanding NATO's Capacity to Address Russian Gray-zone Conflict', *The Civil Affairs Association*, 11 Mar 21

'Using Hybrid War Theory to Shape Future U. S. Generational Doctrine', *Small Wars Journal*, 03 Feb 21

'Between Peace and War: Gray Zone, Bright Line, or Dialectic?', *Real Clear Defense*, 07 Dec 20

## **Whose hybrid warfare? How ‘the hybrid warfare’ concept shapes Russian discourse, military, and political practice**

Small Wars and Insurgencies – Feb 21

Maxim Suchkov unpicks the term ‘hybrid warfare’ in how Russians see and use it. Ironically, considering the general Western view Russia initially saw hybrid warfare as a means of describing American trends in warfare. For Moscow, hybrid warfare is the range of conflicts (military, social, health, sports, etc) that the West wages on Russia. The article suggests their future concept of war (*Vojni Novogo Pokoleniya* (VNP) - ‘New Generation Warfare’) reflects this, focussing on how Russia will engage with foreign adversaries. *Hybrid warfare* is how Russia will defend itself from the West. It is critical to understand this, as it means our definition of hybrid warfare cannot be easily applied as predictive tool for Russian (or nations that are Russian trained) actions.

### **Related:**

‘Russian Cyber Strategy’, *Small Wars Journal*, 14 Feb 21

‘The evolution of Russian hybrid warfare’, *Center for European Policy Analysis*, 29 Jan 21

‘Russia’s New Military Strategy is Less Numbers, More Technology’, *The National Interest*, 21 Jan 21

‘Tracing Russia’s Path to Network-Centric Military Capability’, *The Jamestown Foundation*, 04 Dec 20

‘Russian New Generation Warfare’, *US Army Training and Doctrine Command*, 26 Mar 20



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## Economy

### The Geopolitics of Critical Minerals Supply Chains

Center for Strategic & International Studies – Mar 21

Modern society, and militaries, are dependent on rare and critical minerals that make up our electric generation and storage, computers, magnets, lasers and other essential equipment. Unlike the fossil fuels that were vital to the industrial age, the mineral required for the digital and quantum age minerals are much more constrained geographically. Increasing strategic tensions signal that the concentration of the bulk within any one nation poses significant national-security concerns. In this report, Jane Nakano compares American, European Union and Japanese concerns and responses. While Australia is seeing the growth of our own rare earth industry, we cannot afford complacency regarding these critical minerals and access to them becoming as source of further tensions.

#### **Related:**

'The US is worried about its critical minerals supply chains – essential for electric vehicles, wind power and the nation's defense', *The Conversation*, 06 Apr 21

'Rare earths and critical minerals provide significant opportunities for Australia', *CSIRO*, 19 Mar 21

'Insight - Australia: A reliable supplier of critical minerals', *Australian Trade and Investment Commission*, 26 Feb 21

'Explainer: Possible impact of Myanmar coup on China's metal and rare earth supply', *Reuters*, 10 Feb 21

'Rare earths are getting rarer – China pushes for tighter control over critical minerals', *Stockhead*, 21 Jan 21

## **Performance Assessment of the Semiconductor Industry: Measured by DEA Environmental Assessment**

energies – Nov 20

The semiconductor chip lies at the heart of future defence acquisitions, their integration and the West's anticipated way of war. They are ubiquitous in the modern world, in essential key pillars of contemporary life from 5G networks to coffee makers. While their ubiquity has almost hidden their range of uses ('hiding in plain sight' as it were), recent events has seen a significant shortage of them. A common manifestation of this shortage in Australia recently is the long lead times to acquire new automobiles. This article, while a little esoteric, ranks major semiconductor firms by efficiency and environmental sustainability. Such information may be of assistance in helping securing our supply chains, identify key partner nations for acquisition purposes, or to support the domestic growth of a sovereign industry in order to try and insulate the ADF from future shocks.

### **Related:**

'Peugeot Goes Old School To Deal With The Chip Shortage', *Jalopnik*, 22 Apr 21

'Semiconductor Shortages End an Era of Globalization', *JSTOR Daily*, 08 Apr 21

'How a Chip Shortage Snarled Everything From Phones to Cars', *Bloomberg*, 29 Mar 21

'The US Needs A Strategy To Secure Microelectronics – Not Just Funding', *Breaking Defense*, 15 Mar 21

'Car chip shortage shines light on fragility of US supply chain', *Financial Times*, 24 Feb 21

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## People, culture and ethics

### Using design thinking to cultivate the next generation of female STEAM thinkers

International Journal of STEM Education – Mar 21

Women only make up about 17% of all STEM qualified people in Australia. It is even less within engineering and professorial areas. Nor is the Australian Army an exemplar of women in STEM, as of 01 Apr 21 across our three technical Corps and all officers and soldiers, only 6.8% are women.<sup>1</sup> While this is an improvement on the past, thanks to some very good recruitment work, there is still further opportunity to consider innovative ways to attract women into these roles. It is important, because Army will need more STEM competent people in order to be truly *Future Ready*. This article looks at processes involving mentors, workshops and role models that seek to change the perception of STEM and attract more interest from women. While the ADF will remain constrained by the demography of the society it serves and its educational systems, there is a chance presented by the ideas in this article to see Army grow as a proponent of women in STEM and contribute even more to improving Australia's workforce diversity, innovation and skills base.

#### **Related:**

'Propel Her', *Grounded Curiosity*, Various

'STEM Women', *Australian Academy of Science*, Various

'It's not lack of confidence that's holding back women in STEM', *The Conversation*, 15 Mar 21

'Women in STEM: What Australia's tertiary educators are doing to achieve gender parity', *ZDNet*, 07 Mar 21

'STEM skills opportunities boosted through School Pathways Program', *Department of Defence*, 25 Feb 21

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<sup>1</sup> RAE – 6.8%; RASigs – 10.8%; RAEME – 4.2%

## **Gender, Justice and Deliberation: Why Women Don't Influence Peacemaking**

International Studies Quarterly – Feb 21

Since the introduction of *UNSC 1325 Women in Peace and Security*, there has been an increase in female representation within various security processes. However, this has not coincided with an increase in influence, suggesting that simply increasing participation does not fully meet the intent of the Resolution. Denisa Kostovicova and Tom Paskhalis have analysed male and female speaking patterns that came out of post-conflict justice debates for the Balkans. They found evidence that mechanisms of speech may contribute. Their research suggests that there is no qualitative difference. However, the method by which women talk, speech patterns, sentence length and 'flow on to other speakers' all work to constrain their participation and reduce opportunities for them to develop arguments and sustain concerns. Understanding this goes beyond peacemaking processes, it could be a consideration in team dynamics for any leaders who has men and women working together.

### **Related:**

'Gender and Women, Peace and Security', *United Nations Peacemaker*, 24 Apr 21

'Sculpting Conflict Resolution by Encompassing Women', *Modern Diplomacy*, 30 Mar 21

'It's Time to Acknowledge Men and Women Behave Differently', *University of Melbourne Faculty of Business and Economics*, 19 Mar 21

"Women as Peacebuilders and Agents of Change in the Maldives' Report Launched", *United Nations Development Program*, 09 Mar 21

'Who won't shut up in meetings? Men say it's women. It's not.', *The Washington Post*, 18 Feb 21

## **Delivering treatment to morally injured UK military personnel and Veterans: The clinician experience**

Military Psychology – Mar 21

Moral injury is a rising cause of mental illness among serving members and veterans. This article reviews work done across 15 clinics in the UK, and while a subtly different military and health system, offers avenues for pre-emptive and post-event treatments. At the clinical level, it may aid military health elements and leadership to build treatments and resilience. It finds that there is a difference between moral injury and threat-based trauma, which consequently requires different treatments. It also finds that there is significant risk to the clinician treating the injury, with the potential need for careful selection and training of clinicians in specific areas (including on the line between confidentiality and required reporting). The article finds there are a number of precursor events that may lower resilience to moral injury and suggests these are out of the control. It goes on to identify a lack of emotional preparedness for ethically challenging decisions, and an increased vulnerability at and immediately following separation, as areas that the British Army can actively work on to minimise risk.

### **Related:**

'Conquering the Ethical Temptations of Command: Lessons from the Field Grades', *Joint Force Quarterly*, 31 Mar 21

'Moral injury: the effect on mental health and implications for treatment', *The Lancet*, 17 Mar 21

'Veterans see positive changes in emotional resilience after intervention', *Mirage News*, 09 Mar 21

'Preparing for natural disasters', *Australian Psychological Society*, 24 Dec 20

'7 Ways Trauma Shapes Morality', *Psychology Today*, 16 Dec 20

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## Force Design

### From transformation to adaptation: analysing the Spanish military change (2004–2020)

Defence Studies – Nov 20

It is often easier to see positives and negatives from outside a changing environment as opposed to while living it. The Spanish military offers such an example for Australia, having pursued similar modernisation and transformation. While the drivers were different, the push to a modern, networked hardened Army in the 2000s and 2010s as a vital member of the Joint Force typifies our development actions. As does the raising of the Joint Concept Development Centre for future focused concepts and a capability based approach to modernisation. It is noteworthy Spain's modernisation, while successful, is assessed as having stalled in trying to develop long-term, efficient and sustainable capabilities. A variety of reasons account for this outcome. There is a real concern that their follow on efforts may only serve to replace existing capabilities at the expense of developing future ones. The article sees an increasing growing risk that the gap between *affordability* and *need* is growing.

#### **Related:**

'Pedro Sánchez presents defence budgets that he knows his partners in the legislature will cut', *Atalayar*, 05 Nov 20

'A New Debt Burden for Spain's Defence Planning', *RUSI Journal*, 16 Dec 19

'Long-Term Doctrine Objective (ODLP) 2035', *Centre for Advanced National Defence Studies*, 11 Jul 19

'Transforming the Spanish military', *Defence Studies*, 24 Feb 16

## Measuring Readiness and Sustainment Within Analysis of Alternatives in Military Systems Acquisition

Military Operations Research – Nov 20

Understanding the true cost of sustainment costs has been a perennial Achilles heel of Defence procurement. FSP 20 saw the first use of a multi-variate, common assessment. While useful from a budgetary aspect, opportunity exists for further work to model accurately the readiness of various capabilities – especially before Initial Operating Capability. Boaz Golan and Moshe Kress, building on previous models, provide a new, non-parametric model that has the ability to consider the readiness and sustainment of different capability options. Critically, the seven variables the model uses are already being measured or modelled. The model allows for unique or different solutions to needs, meaning that Project Managers would have the ability to look wider at various solutions.

### **Related:**

'To Better Equip Warfighters, Sustainment Must Be Built In', *Department of Defense*, 02 Apr 21

'Redefine readiness or lose', *War on the Rocks*, 15 Mar 21

'Physics-based simulation can improve force readiness', *Defense News*, 08 Mar 21

'How AI can save money, spare lives and reduce downtime', *GCN*, 17 Feb 21

'The Wrong Way to Gauge Readiness', *Defense One*, 11 Jan 21

## **Top 10 Research Priorities for U.S. Military Enroute Combat Casualty Care**

Military Medicine – Mar/Apr 21

The best-known force design plans for tend to relate to the major combat platforms. Detailed and large-scale assessments of current and possible future conflicts contribute to building these decisions. For logistic elements, this attention is sometimes less – and for medical elements even more so, thanks in large part to their small size and niche position within the Army. To this end, seizing on what trusted allies believe are future trends can provide a shortcut to analysis as to what the battlefield medical support of the future land force may look like. This US Joint article provides a recommended ‘Top 10’ list of priorities for casualty care.

### **Related:**

‘Virtual Reality Changing Scope, Future of Medical Training’, *US Army Medical Research and Development Command*, 22 Apr 21

‘Personalized medicine is the future of health care for troops, advocates say’, *Military Times*, 30 Mar 21

‘The Future Of Healthcare Design – Outside The Point Of Care’, *The Medical Futurist*, 18 Mar 21

‘Nurse-led research aims to improve battlefield medicine’, *Health.mil*, 21 Dec 20

‘Five trends shaping health care’s data-driven future’, *Ernst and Young*, 03 Dec 20



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## Science, Technology and Industry

### Fourth Industrial Revolution technologies in the Israel Defence Forces: blurring traditional boundaries

Journal of Strategic Studies – Dec 20

While there are significant differences between Israel and Australia's geo-strategic situation, some points of comparison exist between the IDF and the ADF. Both focus on technological superiority to make up for a lack of mass, operate in a constantly contested space to shape future conflicts, and see future operations as precise, long range and not necessarily involving the seizure and retention of large swaths of terrain. Furthermore, and acknowledging the ambiguous nature of Israel's nuclear weapon status, both nations require their militaries to provide a deterrence effect. This article provides an overview on how the IDF is investing in Fourth Industrial Revolution technology such as AI, autonomy, new sensors, and quantum technologies to improve its war fighting and deterrence capabilities. It clearly details issues the IDF has found, notably culturally, integrating such technology, especially when second- or third-order effects are initially unknown. The article further highlights the symbiotic relationship between industry and the military in the development and use of such technology.

#### **Related:**

'Move over Amazon, the Israeli military is equipping its warehouses with artificial intelligence', *CTech*, 16 Apr 21

'Israeli defense-industry source on modern combat: 'If not part of the network, you don't exist'', *Jewish News Syndicate*, 01 Apr 21

'Israeli defense company looks to AI as game-changer in space and weapons', *The Jerusalem Post*, 01 Mar 21

'Rafael seeks to outfit IDF with drones, robots that spot threats by themselves', *The Times of Israel*, 27 Dec 20

'Top defense official tells 'Post' how Israel confronts quantum age', *The Jerusalem Post*, 08 Dec 20

## **Industrial Mobilization: Assessing Surge Capabilities, Wartime Risk, and System Brittleness**

Center for Strategic and International Studies – Jan 21

Mobilisation planning is essential to designing a force – most nations cannot maintain a force at the size or readiness needed for war within peacetime budget constraints. In this work, Mark Cancian provides a short history of how the United States developed its mobilisation capabilities. It examines the poor preparation of 1917, through to its role as the arsenal of democracy in the 1940s – 1990s, and into the scaling down as part of the peace dividend after 1991. Cancian focuses on key issues facing the contemporary system, including the mini-surges for Iraq and Afghanistan. He seeks to answer five questions relating to the ability of existing US capabilities, risks which exist, and an assessment of whether the system has become more brittle over time.

### **Related:**

'Building Resilience: Mobilizing the Defense Industrial Base in an Era of Great-Power Competition', *Heritage*, 17 Nov 20

'National mobilisation during war: past insights, future possibilities', *Australian National University National Security College*, Aug 20

'National mobilisation: What are the strategic risks to Australian national security planning?', *Australian Journal of Defence and Strategic Studies*, 21 Aug 20

'Wartime lessons for industrial mobilization in a time of pandemic', *War on the Rocks*, 03 Apr 20

'What does mobilisation look like in practice?', *Australian Defence Magazine*, 22 Jun 19

## Space Threat Assessment 2021

Center for Strategic and International Studies – Apr 21

Space is vital for the contemporary land power. Armies are increasingly reliant on space, and the need for multi-domain and unified domain thinking, combined with technological shifts allowing land forces to effect space-based assets, further drive the space engagement imperative. This report provides a summary of kinetic and non-kinetic counter space weapons, as well as the current *estimated* status of ten nations beyond the United States that have such capabilities. While the Air Force remains the Domain lead for Space under the CLC, this assessment offers pathways for Army to develop, support, and advocate the vitality of space to the land domain.

### **Related:**

'Global Counterspace Capabilities', *Secure World Foundation*, Apr 21

'Interference with Space Maneuver and Communications of Concern, Space Force Official Says', *Defense Daily*, 04 Apr 21

'Counterspace 2020: All (Pretty) Quiet On The ASAT Front', *Breaking Defense*, 01 Apr 21

'JADC2 Critical To Counter Space Threats, Say Milspace Leaders', *Breaking Defense*, 26 Mar 21

'Threats to space aren't just weapons', *Trends*, 24 Feb 21

## The sixth RMA wave: Disruption in Military Affairs?

Journal of Strategic Studies – Nov 20

Generally accepted to have occurred in five previous waves, contemporary RMA work has been information technology focused, seeking to integrate digital technology onto essentially industrial age platforms. Within this article, Michael Raska argues the existence of a sixth RMA, but one that is rooted within artificial intelligence and paired with Fourth Industrial Revolution tech. This so called 'AI-RMA', Raska claims, is different thanks to a combination of multiple axes of technological advancement, the lead of civilian markets over traditional military tech and increasing strategic competition. Raska argues that AI-RMA is not a continuation of the modernisation RMA's previously seen, but a real RMA that provides a disruptive shift in warfare. He suggests that for those that can rethink processes, equipment and conduct of warfare it offers unparalleled opportunities.

### **Related:**

'Brown Says Networks are Key to New Revolution in Military Affairs',  
*Air Force Magazine*, 29 Mar 21

'Helping humans and computers fight together: military lessons from civilian AI', *War on the Rocks*, 15 Mar 21

'How Do You Measure a Revolution in Military Affairs?', *The Diplomat*,  
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## Weaponising Blockchain

The RUSI Journal – Mar 21

*Blockchain* is a technological evolution that makes up the Fourth Industrial Revolution. It rests upon two key technologies (themselves that are at risk of being outdated by 4IR capabilities) that are familiar to the military: distributed computing and cryptography. It has already seen a period of hype within the civilian sector, most notably through cryptocurrencies like Bitcoin. Bilyana Lilly and Sale Lilly have conducted the first open source assessment of US, Chinese and Russian military applications, examining how they are similar and different. Two key findings are that network security and logistics are the two dominant themes across all three nations, and that all three nations couch their open source discussion in terms of great power competition, often focusing more on competitors than their own work. Importantly for the ADF, it appears bespoke military Blockchain work is not common, with commercial Blockchain protocol the preferred start point for all three militaries; in turn driving a need to understand commercial use, application and potential.

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'What is a Blockchain? Is It Hype?', *The New York Times*, 27 Jan 21

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