



# US Intelligence, Surveillance and Reconnaissance challenges in the Asia-Pacific

by Colonel Andrew Torelli

*This paper was submitted by Colonel Andrew Torelli as part of the requirements to complete the Defence and Strategic Studies course at the centre for Defence and Strategic studies of the Australian Defence Force in Canberra.*

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## ABOUT THE AUTHOR

Colonel Andrew Torelli was raised in Brooklyn, New York and Greenwich, Connecticut. He earned his United States Air Force commission through the University of Maine Reserve Officer Training Course in 1990. He earned Bachelor of Science and Master of Forestry degrees with specializations in Business Administration and Geographic Information Systems. Since entering active duty in 1992, Colonel Torelli served as an Intelligence, Surveillance, and Reconnaissance specialist in Germany, Panama, Bosnia, United Kingdom, Hawaii, Turkey, Saudi Arabia, and Afghanistan in various service, joint and combined leadership and staff positions. Colonel Torelli's operational flying experience is on the RC-135V/W in support of several global operations and commanding the 488th Expeditionary Intelligence Squadron during Operation NORTHERN WATCH, Turkey. He was also the RC-135V/W specialist in the Combined Air Operations Center, Prince Sultan Air Base, Saudi Arabia during the start of combat operations in Afghanistan in 2001.

In 2007, Colonel Torelli served as the Operations Officer for the Joint Intelligence Operations Center, International Security Assistance Force, Kabul; supporting numerous task forces and special operations units conducting counterterrorism, counterinsurgency, and counter improvised explosive device missions. He also supported the South Korean government in obtaining the successful release of kidnapped missionaries. He was awarded Republic of Korea, Joint Chiefs of Staff and Defense Intelligence Agency commendations. From 2008 to 2009, Colonel Torelli served as Forward Operating Base-Smart commander, and Zabul Provincial Reconstruction Team commander. Colonel Torelli's team conducted 900 successful counterinsurgency missions with Afghan security and Romanian Task Force counterparts in one of the most austere Afghan environments for which he was awarded the Romanian Major General Medal. Because of his Afghan experience, Colonel Torelli served as a stability operations advisor to the First Marine Expeditionary Force, senior State Department diplomats, and incoming Provincial Reconstruction Team commanders in preparation for their first deployments to Afghanistan.

He recently served as the Chief, Strategy Division, and Chief, Doctrine Division, for the Deputy Chief of Staff of Intelligence, Surveillance, and Reconnaissance, in Headquarters United States Air Force, the Pentagon,

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located in Washington, District of Columbia; shaping doctrine, strategy, plans, policy, and capabilities across Air, Space, and Cyberspace domains.

Colonel Torelli's major awards and decorations include the Bronze Star, Defense Meritorious Service Medal with two oak leaf clusters, Meritorious Service Medal with one oak leaf cluster, Aerial Achievement Medal, Joint Service Commendation Medal with oak leaf cluster, Joint Service Achievement Medal, Air Force Commendation Medal, Air Force Achievement Medal with oak leaf cluster, and several campaign awards.

Colonel Torelli earned a Master of Science in Strategic Intelligence from the Joint Military Intelligence College, and a Master of Arts in National Security and Strategic Studies from the Naval War College. He is currently attending the Australian Defence College in Canberra.

Colonel Torelli is married to Giannina and they have two daughters. He enjoys spending time with friends and family, travelling, adventure, exploration, philately, and martial arts.

## INTRODUCTION

*If you know the enemy and know yourself, you need not fear the results of a hundred battles.*

—Sun Tzu

In theory the US employs intelligence, surveillance and reconnaissance (ISR)<sup>1</sup> capabilities in the air, space, surface and cyberspace domains to gain accurate and timely knowledge on current and potential adversary motivations, intentions, force capabilities and posture. It is supposed to provide decision-makers and other warfighters with accurate and timely indications and warning, targeting support, and coherent battlespace picture. Basically, ISR information identifies what we know, what we don't know, and what we think we know. It also identifies where the knowledge gaps are and where increased focus needs to be placed, to gain knowledge and enable decision-making. Although US ISR is a key power projection capability in the Asia-Pacific it faces two key strategic security challenges over the next decade: China's anti-access and area denial strategy, and a lack of a regional ISR architecture. This paper will argue that any US rebalancing efforts to expand its ISR capabilities into the theatre will need to account for these challenges and seek opportunities to improve vigilance across the spectrum of conflict, operations spanning from humanitarian relief to conventional war. This argument will be made by first examining how China's anti-access and area denial strategy may directly challenge US ISR freedom of movement and freedom of action in theatre. Secondly, this paper will examine why there is a lack of a regional ISR architecture and why none will likely exist in the next decade. These challenges directly impact the US's capability to secure its interests in the region.

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1 Joint Staff, Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*, Joint Chiefs of Staff, Washington, DC, 8 November 2010 (as amended through 15 December 2012), pp. 143, 146, 246 and 285: ISR is defined as 'An activity that synchronizes and integrates the planning and operation of sensors, assets, and processing, exploitation, and dissemination systems in direct support of current and future operations. This is an integrated intelligence and operations function'. Intelligence is defined as 'The product resulting from the collection, processing, integration, evaluation, analysis, and interpretation of available information concerning foreign nations, hostile or potentially hostile forces or elements, or areas of actual or potential operations. The term is also applied to the activity which results in the product and to the organizations engaged in such activity'. Whereas surveillance is defined as 'The systematic observation of aerospace, surface, or subsurface areas, places, persons, or things, by visual, aural, electronic, photographic, or other means'. Finally, reconnaissance is defined as 'A mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or adversary, or to secure data concerning the meteorological, hydrographic, or geographic characteristics of a particular area'. US Air Force, Air Force Doctrine Document (AFDD) 2-0, *Global Integrated Intelligence, Surveillance, and Reconnaissance Operations*, LeMay Center, Maxwell AFB, AL, 6 January 2012, p. 1: As a critical warfighting function for US military operations, global integrated ISR is defined as 'cross-domain synchronization and integration of the planning and operation of ISR assets; sensors; processing, exploitation and dissemination systems; and, analysis and production capabilities across the globe to enable current and future operations'. Portions of this paper are drawn from Andrew Torelli, 'Challenges to US Security – China and Cyberspace Security', unpublished paper, Centre for Defence and Strategic Studies (CDSS), Canberra, 22 February 2012; and Andrew Torelli, 'Challenges to PRC Security – Lack of ISR Cooperation', unpublished paper, CDSS, Canberra, 20 April 2012.

The US has a long history in the Asia-Pacific and enduring interests in the region. The region is strategically significant due to South-East Asia's proximity to areas of operations where there security issues may arise in North-East Asia, Central Asia, and the Middle East. It is full of opportunities as it is rich in natural and energy resources and has significant economic potential. In addition, there exists half of the world's population, large and fast-growing economies, the world's busiest ports and shipping lanes, and nascent democracies. It also faces challenges with security concerns such as internal violent conflict, piracy, military build-ups, proliferation of nuclear weapons, and is prone to natural disasters (i.e., earthquakes, tsunamis, and typhoons) since a large portion of the population resides on coastlines.<sup>2</sup> Furthermore, conflict on the Korean peninsula is always a possibility. US Secretary of State Clinton stated, '... in the 21st century, the world's strategic and economic center of gravity will be the Asia Pacific, from the Indian subcontinent to the western shores of the Americas'.<sup>3</sup> US economic and security interests are thus inextricably linked from the Western Pacific and East Asia into the Indian Ocean region and South Asia.<sup>4</sup> The US protects these interests by projecting its presence using diplomatic, informational/identity, military and economic instruments of national power. Key to all these interests is US access to the region to enable freedom of movement and operations in the maritime, air, cyberspace and space domains in accordance with international law and norms. Without access, US economic and security interests, including those of its allies and close partners, would be directly threatened.

Another strategic US interest is its commitment to its allies and partners. The US has alliances with Thailand, Japan, Republic of Korea, the Philippines, and Australia. It also has strong partnerships with several countries to include Indonesia, India, Singapore and New Zealand; and strengthening new partnerships with countries such as Vietnam and China. The US and China are working to improve their strategic diplomatic, economic and military relationships, and addressing human rights and freedom of movement friction points. There is increased trade between the two countries and a desire for more military-to-military engagement. In 2011, President Barack Obama and President Hu Jintao agreed that a 'healthy, stable and reliable military-to-military relationship' is 'essential for a positive, cooperative, and comprehensive China-US relationship'.<sup>5</sup> US national security interests in the Asia-Pacific region include strengthening and expanding alliances, promoting common democratic values, modernising security relationships to face evolving 21st century global security challenges, and ensuring a sustainable foundation for the US military presence.<sup>6</sup> The US is working with its allies to 'develop a positive security agenda for the region, focused on regional security, combating the proliferation of weapons of mass destruction, terrorism, climate change, international piracy, epidemics, and cybersecurity, while achieving balanced growth and human rights'. US allies and partners are key enablers in US national strategy to project power in the region and secure its interests.

US security challenges in the region span the spectrum of conflict. Within the *National Military Strategy*, several concerns are highlighted to include terrorists who undermine the rule of law, perpetuate and accelerate violence in the international system, and challenge a country's ability to respond.<sup>7</sup> It sets the objective of countering violent extremism and terrorist networks in concert with allies and partners.<sup>8</sup> This will include finding, capturing or killing extremists and strengthening and expanding partnerships.<sup>9</sup> The strategy also stresses the need to invest

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2 US Department of State, 'America's Pacific Century', Remarks by Hillary Rodham Clinton, Secretary of State, East-West Center, Honolulu, HI, 10 November 2011, available at: <[www.state.gov/secretary/rm/2011/11/176999.htm](http://www.state.gov/secretary/rm/2011/11/176999.htm)>, accessed 15 May 2012; and US Department of State and US Agency for International Development, *Leading Through Civilian Power: The First Quadrennial Diplomacy and Development Review*, Department of State, Washington, DC, 2010.

3 US Department of State, 'America's Pacific Century'.

4 US Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*, Department of Defense, Washington, DC, January 2012, p. 2.

5 BBC, 'China-US Joint Statement', in *BBC Monitoring Asia Pacific*, 20 January 2011.

6 The White House, *National Security Strategy*, The White House, Washington, DC, May 2010, p. 42.

7 US Department of Defense, *National Military Strategy of the United States of America*, Joint Chiefs of Staff, Washington, DC, 8 February 2011, p. 4.

8 *ibid.*

9 *ibid.*, p. 6.

new attention and resources in South-East and South Asia.<sup>10</sup> Possible counterinsurgency and counterterrorism challenges could arise in the Philippines, Indonesia, Thailand and Burma requiring US support. In addition, the US strives to assure access to and freedom of movement across space, air, land, sea, and cyberspace domains.<sup>11</sup> As such, the US needs to maintain accurate and timely situational awareness that is enabled by ISR capabilities.

US policy focus is shifting from the Middle East to the Asia-Pacific to re-emphasise long-term regional stability with allies and partners to respond to threats or contingencies throughout the full spectrum of conflict. In November 2011, President Barack Obama stated the US is 'stepping up its commitment to the entire Asia Pacific'<sup>12</sup> and will expand and strengthen security cooperation in the region. For example, there will be increased collaboration between the Australian Defence Force, US Marine Corps, and the US Air Force with the deployment of personnel to Australia and greater access by US military aircraft into and out of Royal Australian Air Force bases.<sup>13</sup> In addition, littoral combat ships will make rotational deployments to Singapore<sup>14</sup> and the US signed a memorandum of understanding with Vietnam to discuss issues such as non-traditional security efforts; war legacy, humanitarian assistance and disaster relief, and search and rescue.<sup>15</sup> Furthermore, the US and Indonesia reaffirmed their deepening engagement and planned transfer and upgrade of 24 Excess Defense Article F-16s to the Indonesian Air Force.<sup>16</sup> Additionally, the Chairman of the Joint Chiefs of Staff recently reaffirmed the US enduring bonds between the US and Philippine armed forces and 'it will strengthen in the future'.<sup>17</sup> US regional efforts will include training, exercising, basing, and organising together.<sup>18</sup> The reasoning for these initiatives is to 'build capacity and cooperation ... meet the demands of a lot of partners in the region ... and that we have the presence that's necessary to maintain the security architecture in the region'.<sup>19</sup>

US Secretary Clinton re-emphasised this commitment in Bali, Indonesia by stating, 'we are making a pivot, a pivot toward the Asia Pacific region, where we intend to be a diplomatic, economic, and strategic force for the 21st century'.<sup>20</sup> These US efforts signal a concerted effort to reaffirm, strengthen and create new partnerships to achieve common security objectives addressing common issues to include China's rapid military modernisation, lack of transparency, aggressive rhetoric, and coercive actions.

Since 2001, US interests in the Asia-Pacific were overshadowed by operations in Afghanistan and Iraq, in which the preponderance of ISR capabilities were conducting operations. The *National Security Strategy* highlighted the need to prevail in today's wars and prevent and deter threats against the US, its interests, and its allies and partners.<sup>21</sup> In accordance with this guidance, the US dedicated the majority of its global

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10 *ibid*, p. 13.

11 *ibid*, p. 3.

12 The White House, 'Remarks by President Obama and Prime Minister Gillard of Australia in Joint Press Conference', Parliament House, Canberra, 16 November 2011, available at: <[www.whitehouse.gov/the-press-office/2011/11/16/remarks-president-obama-and-prime-minister-gillard-australia-joint-press](http://www.whitehouse.gov/the-press-office/2011/11/16/remarks-president-obama-and-prime-minister-gillard-australia-joint-press)>, accessed 15 May 2012.

13 *ibid*.

14 Karen Parrish, 'Dempsey Details Plan for "Singapore-managed" Ships', American Forces Press Service, 3 Jun 2012, available at: <[www.defense.gov/news/newsarticle.aspx?id=116600](http://www.defense.gov/news/newsarticle.aspx?id=116600)>, accessed 14 July 2012.

15 US Department of Defense, 'Joint Press Briefing with Secretary Panetta and Vietnamese Minister of Defense Gen. Phung Quang Thanh from Hanoi, Vietnam', 4 June 2012, available at: <[www.defense.gov/transcripts/transcript.aspx?transcriptid=5052](http://www.defense.gov/transcripts/transcript.aspx?transcriptid=5052)>, accessed 14 July 2012.

16 Karen Parrish, 'U.S, Indonesia Agree on F-16 Transfer', American Forces Press Service, 18 November 2011, available at: <[www.defense.gov/news/newsarticle.aspx?id=66164](http://www.defense.gov/news/newsarticle.aspx?id=66164)>, accessed 14 July 2012.

17 Karen Parrish, 'U.S. Shares Deep, Enduring Military Bonds with Philippines, Dempsey Says', American Forces Press Service, 4 June 2012, available at: <[www.defense.gov/news/newsarticle.aspx?id=116616](http://www.defense.gov/news/newsarticle.aspx?id=116616)>, accessed 14 July 2012.

18 The White House, 'Remarks by President Obama and Prime Minister Gillard of Australia in Joint Press Conference'.

19 *ibid*.

20 US Department of State, 'Remarks at ASEAN Business and Investment Summit', Remarks by Hillary Rodham Clinton, Secretary of State, Bali, Indonesia, 18 November 2011, available at: <[www.state.gov/secretary/rm/2011/11/177349.htm](http://www.state.gov/secretary/rm/2011/11/177349.htm)>, accessed 15 May 2012.

21 The White House, *National Security Strategy*, p. 14.

warfighting resources, to include ISR, to winning the wars in Afghanistan and Iraq.<sup>22</sup> For example, during the Kosovo conflict, Remotely Piloted Aircraft (RPA) such as the RQ-1 Predator were first used extensively in combat flying over 50 sorties.<sup>23</sup> However, since the 2001 attacks on the US, USAF MQ-1B Predators and MQ-9A Reapers provide around-the-clock coverage in 47 simultaneous locations in Iraq and Afghanistan.<sup>24</sup> In addition, the USAF is planning and implementing the growth of MQ-9 RPA capability to over 300 aircraft with advanced ISR sensors and more lethal firepower, and 15 000 personnel to support approximately 65 combat air patrols by 2014.<sup>25</sup> However, this growth is not limited to drones. Many other ISR capabilities are maturing in capability and expanding in capacity. After a decade of Middle East focus, US interests in the Asia-Pacific have re-emerged and are anticipated to be of higher priority than in past decades and many of these ISR capabilities are anticipated to support this effort.

The US military has already completed major operations in Iraq and will draw down in Afghanistan by 2014, which should release additional military resources to support US Pacific Command's efforts to accomplish national objectives. Because of the US's lessening role in Iraq and Afghanistan wars, it will likely 'redirect some of those investments to opportunities and obligations elsewhere. And Asia stands out as a region where opportunities abound'.<sup>26</sup> According to the US defence strategic guidance, the current and future 'global security environment presents an increasingly complex set of challenges and opportunities to which all elements of U.S. national power must be applied'.<sup>27</sup> Therefore, the US military will 'rebalance toward the Asia-Pacific region',<sup>28</sup> and a key assumption in this paper is that this will include additional ISR capabilities.

## CHINA'S ANTI-ACCESS AND AREA DENIAL STRATEGY

There is an ongoing competition in the Asia-Pacific between the US and China. It is not a direct confrontation but indirect in its application. Although the US is pursuing a cooperative partnership with China,<sup>29</sup> there is unease about China's military modernisation program, lack of transparency, aggressive rhetoric, and coercive actions. For example, the US intelligence community remains deeply concerned about China's intentions in the Asia-Pacific region. Former US Pacific Command commander, Admiral Willard, stated that in the past decade, China's unprecedented rate of military modernisation to include asymmetric and anti-access capabilities exceeded most US intelligence estimates of their military capability and capacity.<sup>30</sup> The US Director of the Defense Intelligence Agency, Lieutenant General Ronald Burgess emphasised, 'China's military modernization continues with the acquisition of growing numbers of very sophisticated aircraft, warships, missiles and personnel required to employ these capabilities'.<sup>31</sup> He also stated, 'China seeks military superiority along its periphery, with a focus against traditional U.S. military advantages in air and naval power projection and in

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- 22 US Department of Defense, *Quadrennial Defense Review Report*, Department of Defense, Washington, DC, February 2010, p. iii.
- 23 US Department of Defense, *Report to Congress: Kosovo/Operation Allied Force After-Action Report*, Department of Defense, Washington, DC, 31 January 2000, p. xxii; and Aviation News, 'RQ-1 Predator MAE UAV', available at: <[www.aviationnews.us/pdf/RQ-1-Predator-MAE-UAV.pdf](http://www.aviationnews.us/pdf/RQ-1-Predator-MAE-UAV.pdf)>, accessed 22 May 2012.
- 24 US Air Force, *United States Air Force FY 2012 Budget Overview*, US Air Force, Washington, DC, February 2011, p. 59.
- 25 US Air Force, *United States Air Force Unmanned Aircraft Systems Flight Plan 2009–2047*, Headquarters US Air Force, Washington, DC, 18 May 2009, pp. 25–26; and US Air Force, *Air Force Tactical Aviation Programs*, Presentation to the House Armed Services Committee Subcommittee on Tactical Air and Land Forces, US House of Representatives, 20 March 2012, p. 14.
- 26 US Department of State, 'America's Pacific Century'.
- 27 US Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, p. 1.
- 28 *ibid*, p. 2.
- 29 US Department of State, 'Joint Statement on the 4th Round of the US-China Strategic and Economic Dialogue', Media Note, Washington, DC, 4 May, 2012, available at: <[www.state.gov/r/pa/prs/ps/2012/05/189286.htm](http://www.state.gov/r/pa/prs/ps/2012/05/189286.htm)>, accessed 14 July 2012.
- 30 Andrew F. Krepinevich, *Why AirSea Battle?*, Center for Strategic and Budgetary Assessments, Washington, DC, 2010, p. 13.
- 31 US Senate Select Committee on Intelligence, *Current and Projected National Security Threats to the United States*, US Government Printing Office, Washington, DC, 2 February 2010, p. 14.

space'.<sup>32</sup> This section will examine how China's anti-access and area denial strategy may directly challenge US ISR freedom of movement and freedom of action in theatre.

China's anti-access and area denial strategy is designed to delay, disrupt, or destroy US power projection forces to keep them from penetrating sovereign territory, or to defeat them with advanced integrated multi-domain weapon systems such as kinetic attacks on satellites or cyberspace attacks on battlespace networks.<sup>33</sup> There may also be indirect or direct attacks on logistics, transportation, and support forces; and attacks on staging areas such as air bases or ports.<sup>34</sup> Coercive measures may also be taken using all instruments of national power dissuade US allies and partners from having a close relationship with the US to include granting access to their military bases.<sup>35</sup>

Is this strategy a credible threat? Yes. The National Defense University's Center for Technology and National Security Policy and Institute for National Strategic Studies co-hosted a conference focused on China's access and anti-access strategy.<sup>36</sup> Participants included practitioners, policymakers, and academics from across the U.S., as well as representatives from Asia-Pacific region; and they concluded that due to China's concerns over threats to its territorial sovereignty especially Taiwan, sea lanes of communication, and energy security they developed anti-access capabilities designed to deny other countries access to the region. Another finding they made was that the People's Liberation Army is introducing a 'range of anti-access capabilities, including diesel submarines, ballistic and cruise missiles, space and cyber weapons, and more advanced naval forces' that can seriously threaten US military access to the region.<sup>37</sup> Furthermore, Senior Colonel Zhao Xiaozhuo, Academy of Military Science, People's Liberation Army stated drivers to China's military modernisation are based on the Century of Humiliation, to prevent invasion and modernise an old force vulnerable to attacks. He also stated it has maritime disputes with neighbours and Taiwan is China's top security concern. Taiwan independence poses the greatest threat to China's sovereignty and it is possible the US and China could face off in the future. Faced with these challenges, China is modernising its military.<sup>38</sup>

In addition, People's Liberation Army National Defense University staff and students (Senior Colonels) expressed concern and disappointment of the US Marine Corps deployment to Darwin, Australia and possible deployment of US ISR capabilities to the Cocos Islands. They stated these actions are an important strategic shift since Australia is a gate to South-East Asia and the Indian Ocean, and these actions will have a ripple effect and cause an arms race. They further accused the US of deploying many advanced capabilities and personnel, and conducting exercises to interfere in South China Sea issues disrupting trade and economic development.<sup>39</sup> The undertone of these organisations is aggressive and meant to signal they intend to defend their sovereignty claims despite the claims being disputed internationally. China claims sovereign control of most of the South China Sea despite the 1982 United Nations Convention on the Law of the Sea (UNCLOS-3) that defined various maritime zones including the continental shelf and the exclusive economic zone.<sup>40</sup> It is likely that China is using ambiguity and aggressiveness to create strategic options as part of their strategy. During discussions with the Japanese National Institute for Defense Studies, they emphasised concern

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32 *ibid.*

33 Krepinevich, *Why AirSea Battle?*, p. 15.

34 *ibid.*

35 *ibid.*

36 National Defense University, *China's Role in Asia: Access and Anti-Access*, Conference Proceedings, Washington, DC, 24–25 July 2008, p. 1, available at: <[www.ndu.edu/CTNSP/docUploaded/TFX\\_China%20in%20Asia%20July%202008%20conf%20rep%20OPEN.pdf](http://www.ndu.edu/CTNSP/docUploaded/TFX_China%20in%20Asia%20July%202008%20conf%20rep%20OPEN.pdf)>, accessed 18 July 2012.

37 *ibid.*

38 Zhao Xiaozhuo, 'China's Defense and Military Build-up', Briefing to CDSS, China Ministry of Foreign Affairs, Beijing, China, 5 April 2012.

39 People's Liberation Army National Defense University, conversations with senior military officers, Beijing, China, 5 April 2012.

40 Leszek Buszynski and Iskandar Sazlan, 'Maritime Claims and Energy Cooperation in the South China Sea', in *Contemporary Southeast Asia*, vol. 29, no. 1, 2007, pp. 143–71.

about China's rise and aggressive actions.<sup>41</sup> Coupled with China's lack of transparency and aggressive diplomacy and military actions this anti-access and area denial strategy has increased anxiety among most of the region's countries to include the US who uses ISR to monitor the region to gain knowledge and understanding of the region's complex political dynamics.

It is imperative that US ISR monitor China's modernisation efforts to obtain greater clarity and ensure it does not negatively impact US interests and allies, regionally and globally.<sup>42</sup> 'While strategic warning might thus be reasonably assumed, surprise at the operational and tactical levels cannot be ruled out.'<sup>43</sup> Knowledge gained through ISR enables US and allied decision-makers to have a better understanding of the current situation and to predict possible alternative futures in order to take appropriate actions to diffuse tense situations or, if required, to authorise military operations. In fact, on 18 May 2012, the US House of Representatives passed a resolution (H.R. 4310) that included a proposed amendment to require the US Pacific Command to assess any gaps in intelligence that limit its ability to address challenges posed by China.<sup>44</sup> It is important the US and its regional partners maintain advanced indications and warning and situational awareness, especially on China's intentions in the region, and create opportunities to influence China to accept international norms on freedom of navigation and maritime claims. Within the Asia-Pacific, US ISR is expected to provide a critical capability to anticipate surprise.

US ISR enables operations in all warfighting domains to provide global vigilance over adversaries across the full spectrum of conflict, and enables all other warfighting functions to include air, maritime, space and cyberspace superiority. Within the Asia-Pacific, US ISR is expected to provide a critical capability to anticipate surprise in advance by gaining knowledge dominance on critical requirements such as China's military intentions, capabilities, force disposition, and strategy. Without ISR, US forces will be blind, deaf and dumb. This will result in the inability of US forces to take offensive action to seize, retain and exploit any initiative.<sup>45</sup>

However, in a contested environment, and against China's anti-access and area denial strategy, there is a greater risk for US ISR to project forward in the region. Critical components required to enable ISR are geographically advantageous operating locations, reliable command and control networks, persistent and penetrating platforms, long-range sensors, and robust processing, exploitation, dissemination architecture, and many more. All these critical components need to be safe and secure from direct and indirect attacks. Unfortunately, because of China's anti-access and area denial strategy there is a greater possibility they are at risk. The following examples highlight some of the challenges the US faces against China's anti-access and area denial strategy.

In the space domain, US and allied satellites are at risk. China has developed an anti-satellite capability that was demonstrated in 2007 and raised concerns about the vulnerability of US satellites. China showed the world it could target regions of space that US spy satellites and space-based missile defence systems operate within.<sup>46</sup> In addition, China also has the capability to dazzle US satellites using a ground-based laser.<sup>47</sup> According to Jeffrey Kueter, president of the George C. Marshall Institute, China can hold US space-based, warfighting capability at risk.<sup>48</sup> Consequently, US space superiority is being challenged because it is conceivable that China could disrupt or destroy US space capabilities critical for ISR operations.

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41 National Institute for Defense Studies, 'How to Respond to the Rise of China', Briefing to CDSS, Tokyo, Japan, 9 April 2012.

42 The White House, *National Security Strategy*, p. 43.

43 Jan van Tol, Mark Gunzinger, Andrew Krepinevich and Jim Thomas, *AirSea Battle: A Point-of-Departure, Operational Concept*, Center for Strategic and Budgetary Assessments, Washington, DC, 2010, p. 51.

44 Shirley A. Kan, *US-China Military Contacts: Issues for Congress*, Congressional Research Service, Washington, DC, 19 June 2012, p. 15.

45 Joint Staff, Joint Publication 3-0, *Joint Operations*, Joint Chiefs of Staff, Washington, DC, 11 August 2011, p. A-1.

46 Marc Kaufman and Dafna Linzer, 'China Criticized for Anti-Satellite Missile Test', in *Washington Post*, 19 January 2007, available at: <[www.washingtonpost.com/wp-dyn/content/article/2007/01/18/AR2007011801029.html](http://www.washingtonpost.com/wp-dyn/content/article/2007/01/18/AR2007011801029.html)>, accessed 14 July 2012.

47 *ibid.*

48 *ibid.*

In the air domain, China can directly target US airborne ISR capabilities. China purchased advanced air defences from Russia; 15 batteries of S-300 (SA-20) anti-aircraft missiles that can shoot down aircraft and cruise missiles within a range of 150 kilometres (90 miles) or more and travel at over two kilometres per second.<sup>49</sup>

The S-300 is one of the most lethal all-altitude area defence SAM systems in service, threatening most US combat aircraft.<sup>50</sup> This will force US ISR aircraft to operate in high-threat conditions, even though they are operating in international airspace, or further from their targets to stay outside Chinese threat envelopes possibly diminishing collection capabilities.

In the maritime domain, China can target naval vessels conducting various missions to include ISR. People's Liberation Army Navy modernisation efforts includes anti-ship ballistic missiles and anti-ship ballistic missiles such as the DF-21D that is equipped with a manoeuvrable re-entry vehicle designed to hit moving ships such as aircraft carriers or bases at a range exceeding 1500 kilometres (i.e., about 810 nautical miles).<sup>51</sup> US bases housing critical ISR capabilities are likely at risk from being targeted by hundreds of Chinese medium- and long-range ballistic and cruise missiles.<sup>52</sup> Most bases supporting ISR operations can be targeted as their offensive capabilities can extend out to the second island chain. 'The second island chain indicates a second circle of operation of commensurate naval capabilities that would be from Japan's Ogasawa-gunto Islands, through to the Ito-Ito Islands and from there to the Mariana Islands (East Pacific).'<sup>53</sup> These forward operating bases are no longer protected by distance and lack sufficient defences. The consolidation of ISR at only a few bases, such as Misawa Air Base's Misawa Security Operations Center and Kadena Air Base's 18th Wing Headquarters, may also be vulnerable as any attack could disable these high-value locations. Operating within China's threat envelop would put ISR operations at high risk to include forward operating bases from ballistic missile attack.<sup>54</sup>

To complicate matters, the Chinese Navy could move their threat coverage around the region as they manoeuvre their fleet assets. The US already lacks a combination of inter- and intra-theatre bases equipped with the necessary ISR infrastructure and agile combat support to monitor China's anti-access and area denial strategy. During allied operations in Kosovo, lessons learned included the reliance on allied ground-based communications and infrastructure, including military bases, airfields and airspace.<sup>55</sup> Forwarded operating bases such as in Japan and South Korea may not have sufficient defences in place to withstand a missile barrage. Inter-theatre bases in Guam, Diego Garcia and Australia could also be within the threat envelop of China's missiles. The establishment of bases further away may result in reduced operational reach necessary for the employment of ISR capabilities.

China also has a history of trying to disrupt US ISR efforts. They often intercept US ISR ships and planes in international airspace and waters.<sup>56</sup> Their belligerent, unsafe, and unprofessional actions put US and China

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49 Dmitry Solovyov, 'China Buys Air Defense Systems from Russia', *Reuters*, 2 April 2010, available at: <[www.reuters.com/article/2010/04/02/us-russia-china-arms-idUSTRE6310WG201004022](http://www.reuters.com/article/2010/04/02/us-russia-china-arms-idUSTRE6310WG201004022)>, accessed 14 July 2012.

50 Carlo Kopp, 'Almaz S-300 – China's "Offensive" Air Defense', International Assessment and Strategy Center, Alexandria, VA, 25 February 2006, available at: <[www.strategycenter.net/research/pubID.93/pub\\_detail.asp](http://www.strategycenter.net/research/pubID.93/pub_detail.asp)>, accessed 14 July 2012.

51 Ronald O'Rourke, China Naval Modernization: Implications for US Navy Capabilities—Background and Issues for Congress, Congressional Research Service, Washington, DC, 14 June 2012, p. 8.

52 Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2012*, Department of Defense, Washington, DC, May 2012, p. 29.

53 W. Lawrence S. Prabhakar, 'China's "String of Pearls" in Southern Asia-Indian Ocean: Implications for India and Taiwan', 2009, available at: <[www.csa-chennai.org/Files/China%27s%20String%20of%20Pearls.pdf](http://www.csa-chennai.org/Files/China%27s%20String%20of%20Pearls.pdf)>, accessed 16 July 2012, p. 3.

54 Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2012*, p. 42.

55 William S. Cohen and Henry H. Shelton, 'Joint Statement on the Kosovo After Action Review', Joint Statement Presented to US Senate Armed Services Committee, 14 October 1999, pp. 9–10.

56 Kan, *US-China Military Contacts: Issues for Congress*, pp. 25–26.

Service members at increased risk.<sup>57</sup> However, they ‘rejected the possibility of accidents, blaming continued U.S. operations for any risks’,<sup>58</sup> so that any future collision would be the US’s fault. In addition, China uses the Military Maritime Consultative Agreement (MMCA), established in 1998, for ‘resolving tension and preventing crisis or conflict’<sup>59</sup> to complain about US ISR operations.

Additional incidents between the two countries are detailed below:

- 3 August 1995: China expelled two US Air Force attaches stationed in Hong Kong. They were accused of collecting military intelligence in restricted military areas along the south-eastern coast.<sup>60</sup>
- 24 March 2001: In the Yellow Sea, a People’s Liberation Army Navy Jianghu III-class frigate passed as close as 100 yards to a US surveillance ship, the USS *Bowditch*, and a People’s Liberation Army Air Force reconnaissance plane shadowed it. Their harassment of the USS *Bowditch* continued for months.<sup>61</sup>
- 1 April 2001: A People’s Liberation Army Navy F-8 fighter collided with a US Navy EP-3 reconnaissance plane over the South China Sea.<sup>62</sup>
- 11 January 2007: The People’s Liberation Army destroyed a Chinese weather satellite with a direct ascent anti-satellite missile,<sup>63</sup> signalling that US and allied satellites, to include ISR, are at risk and they no longer have space superiority.
- March 2009: In international waters in the Yellow Sea and South China Sea, People’s Liberation Army Navy assets, conducted aggressive and dangerous harassment of unarmed US ocean surveillance ships, the USNS *Victorious* and USNS *Impeccable*.<sup>64</sup>
- 29 June 2011: Taiwan F-16 fighters flew to intercept People’s Liberation Army Air Force Su-27 fighters that crossed a median line in the Taiwan Strait to confront a US reconnaissance aircraft.<sup>65</sup>

In the cyberspace domain, China has developed the equivalent to the US National Security Agency and US Cyberspace Command. The People’s Liberation Army General Staff Department (GSD) ‘is responsible for monitoring foreign communications, assuring the security of its computer and communications networks, and conducting cyber surveillance on priority targets around the world’.<sup>66</sup> Although the origin and identity of cyberspace threats are often difficult to determine, malicious attacks can originate from foreign and domestic actors anywhere in the world since the threat is comprised of a variety of actors including individual hackers, organised crime syndicates, terrorist networks, and nation states using the global cyberspace infrastructure. The 2012 US Defense Strategy states, ‘Both state and non-state actors possess the capability and intent to conduct cyber espionage and ... cyber attacks ... with ... severe effects on both our military operations and our homeland’.<sup>67</sup> A House Permanent Select Committee on Intelligence white paper described several cyberspace incidents against US interests; such as, President Obama and Senator McCain were victims of advanced activities by unknown foreign entities and the US military was also a victim of hackers attempting to steal

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57 *ibid.* p. 25

58 *ibid.*

59 *ibid.*

60 *ibid.*, p. 47.

61 *ibid.*, p. 57.

62 *ibid.*, p. 57.

63 Paul Oh, ‘Assessing Chinese Intentions for the Military Use of the Space Domain’, in *Joint Force Quarterly*, Issue 64, 1<sup>st</sup> Quarter, 2012, pp. 91 and 95.

64 Kan, *US-China Military Contacts: Issues for Congress*, p. 30.

65 *ibid.*, p. 26.

66 Mark A. Stokes, Jenny Lin and L.C. Russell Hsiao, *The Chinese People’s Liberation Army Signals Intelligence and Cyber Reconnaissance Infrastructure*, Project 2049 Institute, Arlington, VA, 11 November 2011, p. 2.

67 US Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, p 3.

information from the Naval War College and Oak Ridge National Laboratory.<sup>68</sup> In addition, representatives from the US Department of Defense accused China of downloading 10 to 20 terabytes of data.<sup>69</sup>

These examples of cybersecurity breaches highlight the vulnerability of the US to cyberspace attacks and pose a great threat to US infrastructures and security.

As these examples show, US ISR capabilities operating in all domains are at risk from China's anti-access area denial strategy. 'Their investments in cyber and anti-satellite warfare, anti-air and anti-ship weaponry, and ballistic missiles could threaten America's primary way to project power and help allies in the Pacific—in particular our forward air bases and carrier strike groups'.<sup>70</sup> China is developing advanced weaponry to include missiles, aircraft, counter-space weapons, and military cyberspace capabilities that enable an anti-access and area denial strategy.<sup>71</sup> The combined impact of the integration of these weapon systems is a counter-intervention capability that spans beyond China borders. This strategy can be used to deter, degrade, delay, disrupt and, if necessary, destroy US ISR capabilities reducing the US's ability to gain accurate and timely knowledge on China motivations, intentions, force capabilities, and posture by limiting its freedom of movement and degrading effectiveness and situational awareness. Consequently, decision-makers and other warfighters may not be afforded accurate and timely indications and warning, targeting support, and a coherent battlespace picture. Although a conventional conflict with China over access and freedom of movement is unlikely, it remains a possibility and dangerous to US national interests in the region.

This section examined China's anti-access and area denial strategy and how it could impact US ISR. Even though the US and China are engaging each other to expand their relationship it would be unwise to underestimate China's possible intentions in the region. Their military modernisation program and aggressive behaviour towards US allies and partners in international maritime areas may be a direct threat to US interests in the Asia-Pacific.

The US and its allies are increasing distrustful of China's intentions and actions, and feel they use aggressive politics reinforced by more threatening military capabilities to impose behaviour acceptable to China.<sup>72</sup>

Because of China's military modernisation, aggressive politics, and non-transparent strategy and doctrine<sup>73</sup> it could be assessed that their defence policies are aimed at creating credible options to forcibly enable its national interests by developing corresponding capabilities to deter or prevent US intervention in any conflicting issue.<sup>74</sup> For example, China continues to intimidate several US allies over disputed maritime areas such as the Spratley Islands for ownership of natural resources. Furthermore, they often suspend defence relations with the US whenever China feels the US acts against China's core interests. A recent example was due to a Taiwan arms sale in 2010 signalling that China may be preparing for a Taiwan conflict and want to prevent US intervention.<sup>75</sup> The US and Chinese defence relationship is only warming recently. As a result, the US and China are prone to misunderstand and miscalculate each other's intentions that could result in military confrontation and exacerbate friction between the two countries in dealing with longstanding issues such as

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68 House Permanent Select Committee on Intelligence, *HPSCI White Paper on Cyber Security*, US House of Representatives, Washington, DC, 10 December 2008, p 1.

69 *ibid*, p. 2.

70 Robert M. Gates, Speech to the Air Force Association Convention, National Harbor, MD, 16 September 2009, available at: <[www.defenselink.mil/speeches/speech.aspx?speechid=1379](http://www.defenselink.mil/speeches/speech.aspx?speechid=1379)>, accessed 2 November 2009.

71 Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2012*, pp. iv, 6–8 and 21–25.

72 John Mearsheimer, 'The Gathering Storm: China's Challenge to US Power in Asia', Fourth Annual Michael Hintze Lecture in International Security, The University of Sydney, 4 August 2010, p 8.

73 Jim Garamone, 'China-U.S. Military Meetings Called "Candid, Productive"', US Department of Defense, 10 January 2011, available at: <[www.defense.gov/news/newsarticle.aspx?id=62381](http://www.defense.gov/news/newsarticle.aspx?id=62381)>, accessed 23 January 2012.

74 House Permanent Select Committee on Intelligence, *Statement for the Record on the Worldwide Threat Assessment of the U.S. Intelligence Community for the House Permanent Select Committee on Intelligence*, Office of the Director of National Intelligence, Washington, DC, 10 February 2011, p. 13.

75 US Senate Select Committee on Intelligence, *Current and Projected National Security Threats to the United States*, p. 8.

military modernisation, maintaining security on the Korean Peninsula, and diffusing the potential of conflict over Taiwan and other regional conflict and tensions. Accordingly, US ISR will remain an important capability to monitor tensions between the two countries across the full spectrum of conflict. Furthermore, unless China changes its aggressive and coercive approach in dealing with international issues within the region, it will be a major obstacle in any formation of a future regional security architecture to include an ISR framework, as no country will want to fully collaborate with China because of the fear the intelligence will be used against them. ISR cooperation will likely remain limited supporting specific mission areas such as counter-piracy and counterterrorism.

## LACK OF A REGIONAL ISR ARCHITECTURE

A regional ISR architecture is important and necessary in the Asia-Pacific, but perhaps unattainable in the next decade. This section will examine why there is a lack of a regional ISR architecture and why none will likely exist in the next decade. The future security environment is projected to be complex, diverse and rapidly changing, in which highly capable and diversified transnational threats will likely continue to challenge the national interests of the US and many Asian-Pacific countries. Future challenges include terrorism, separatism, drug trafficking, arms smuggling, piracy, competition for natural resources and food, and humanitarian disasters.<sup>76</sup> These threats are diverse, dispersed and decentralised in a highly complex environment. As a result, transnational issues tend to be amorphous, fluid and hidden; emerging suddenly and developing rapidly.<sup>77</sup> It also takes a greater volume of information to characterise these threats, especially from a cultural context.

In addition to transnational threats, there is also a risk of conventional conflict over territorial and maritime disputes, proliferation of weapons of mass destruction, and conflict on the Korean peninsula. As a result, accurate, timely and actionable ISR information demands collaborative and multidisciplinary analysis with a broad range of producers and consumers.<sup>78</sup>

ISR also needs to be shared with partner nations and allies,<sup>79</sup> because multinational operations are becoming the norm for military operations, making cooperation with allies and coalition partners increasingly important.<sup>80</sup> This cooperation would provide a better understanding of the diverse threats operating in varied geographic or cultural environments within the Asia-Pacific region, by fusing all source information gained by a regional ISR architecture. The lack of a regional ISR approach could prolong the disconnectedness of efforts in theatre because there will be less collaboration leading to operational paralysis. ISR relationships provide a means of unique access to information and capabilities that the US and other regional partners might otherwise be unable to obtain.<sup>81</sup> For example, intelligence production and information sharing is still not a reality in the US European Command and collection requirements remain unfulfilled due to limited ISR capabilities and capacity.<sup>82</sup> In addition, *Empire Challenge 2006* identified common problems facing coalition ISR operations with the dissemination of information from ISR platforms to decision-makers and other warfighters.<sup>83</sup> If this

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76 US Joint Forces Command, *The Joint Operating Environment (JOE) 2008: Challenges and Implications for the Joint Force*, US Joint Forces Command, Suffolk, VA, 25 November 2008, pp. 10–23.

77 Warren Fishbein and Gregory Treverton, *Making Sense of Transnational Threats*, The Sherman Kent Center for Intelligence Analysis, Occasional Papers: vol. 3, no. 1, Central Intelligence Agency, October 2004, available at: <[www.cia.gov/library/kent-center-occasional-papers/vol3no1.htm#sect04](http://www.cia.gov/library/kent-center-occasional-papers/vol3no1.htm#sect04)>, accessed 23 March 2012.

78 *ibid.*

79 US Air Force, Air Force Doctrine Document 2-0, *Global Integrated Intelligence, Surveillance, and Reconnaissance (ISR) Operations*, p. 6.

80 *ibid.*, p. 23.

81 Office of the Secretary of the Air Force, *Security Cooperation Strategy: Building Capacity, Integrating Capabilities, 2006*, Office of the Secretary of the Air Force, Washington, DC, 2006, p. 10.

82 Lt Col Kevin M. Coyne, USAF, 'Developing US European Command's Intelligence, Surveillance, and Reconnaissance Strategy for Fiscal Years 2010 through 2015', in *Air & Space Power Journal*, vol. XXIV, no. 4, Winter 2010, p. 83.

83 Jane's, 'Imagery Intelligence – Allies simulate ISR data-sharing', 7 November 2006, p. 2, available at: <[www.janes.com](http://www.janes.com)>, accessed 14 May 2012.

is true for close US allies such as Australia, United Kingdom and Canada, the issue will be compounded with other allies and partners.

Although the US has a policy to strengthen and expand ISR partnerships,<sup>84</sup> there is no formal regional security architecture in the Asia-Pacific into which a regional ISR partnership could be tied. The Association of Southeast Asian Nations (ASEAN) is primarily focused on economic development and the 'ASEAN Way' advocates regional cooperation, non-interference, informality, minimal institutionalisation, consultation, consensus, non-use of force, direct and indirect measures of restraint and pressure, diplomacy, communication, trade-offs, and non-confrontation,<sup>85</sup> making it difficult for a formal regional security architecture to evolve within this institution. Nevertheless, the ASEAN Political-Security Community is strengthening security arrangements and providing opportunities for regional countries to cooperate and collaborate on important security challenges.<sup>86</sup> For example, ASEAN made important steps in promoting security and peaceful resolution to disputes in the region with the signing of the Treaty of Amity and Cooperation in Southeast Asia, the Treaty on the Southeast Asia Nuclear Weapon-Free Zone, and the Declaration on the Conduct of Parties in the South China Sea.<sup>87</sup> The ASEAN Regional Forum also brings together foreign and defence ministers to the region every year.<sup>88</sup> In addition, ASEAN is working with China on a 'code of conduct' to ease tensions over South China Sea maritime disputes as there have been at least 22 serious incidents between China and South-East Asian countries since 2009.<sup>89</sup> The ASEAN Defence Ministers Meetings are also held to create greater understanding on regional security challenges.<sup>90</sup> Furthermore, after 45 years, ASEAN is still tackling tough economic reforms and continues to have fragmented and disparate economies. Addressing and reaching consensus on numerous conflicting defence interests and confrontational security issues will be a more daunting task. There would have to be a change in its mindset and institution. As a result, it is unlikely that ASEAN will be willing or able to tackle regional security issues or establish a regional ISR architecture in the next decade.

Besides ASEAN, it is unlikely other regional organisations could support a regional ISR architecture. The Asia-Pacific Economic Cooperation organisation is focused on economic and trade issues, and does not include India,<sup>91</sup> and would not be suitable as a formal regional security architecture into which a regional ISR partnership could be tied. The only forum with potential for broad-ranging dialogue on all major policy issues, security, economic and broader socio-political, is the East Asia Summit (EAS).<sup>92</sup> The EAS is a regional leaders' forum for strategic dialogue and cooperation on key East Asian region challenges.<sup>93</sup> EAS membership includes the 10 ASEAN countries and Australia, China, India, Japan, New Zealand, the Republic of Korea, the United States and Russia.<sup>94</sup> Although the US and Russia were recently added to the EAS, there currently is no way ahead for institutionalising security cooperation in the Asia-Pacific region. The interests of many

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84 Office of the Director of National Intelligence, *The National Intelligence Strategy of the United States of America*, Office of the Director of National Intelligence, Washington, DC, August 2009, pp. 12–13.

85 Shada Islam, Patricia Diaz and Viktorija Laurinaityte, *ASEAN at 45: Regional Hopes, Global Clout*, Policy Brief, Friends of Europe, Brussels, June 2012, p. 2; and Gillian Goh, 'The "ASEAN Way": Non-Intervention and ASEAN's Role in Conflict Management', in *Stanford Journal of East Asian Affairs*, vol. 3, no. 1, Spring 2003, pp. 113–114.

86 US Department of State, 'Press Availability in Phnom Penh', Remarks by Hillary Rodham Clinton, Secretary of State, and Victoria Nuland, Department Spokesperson, Peace Palace, Phnom Penh, Cambodia, 12 July 2012, available at: <[www.state.gov/secretary/rm/2012/07/194909.htm](http://www.state.gov/secretary/rm/2012/07/194909.htm)>, accessed 12 July 2012.

87 Islam, *ASEAN at 45: Regional Hopes, Global Clout*, p. 4.

88 *ibid*, p. 4.

89 Ernest Z. Bower and Prashanth Parameswaran, 'Clinton, the ARF, and the U.S. "Rebalance" to Asia', Center for Strategic and International Studies, available at: <[csis.org/publication/clinton-arf-and-us-rebalance-asia](http://csis.org/publication/clinton-arf-and-us-rebalance-asia)>, accessed 13 July 2012.

90 Islam, *ASEAN at 45: Regional Hopes, Global Clout*, p. 4.

91 Asia-Pacific Economic Cooperation, 'Member Economies', available at: <[www.apec.org/About-Us/About-APEC/Member-Economies.aspx](http://www.apec.org/About-Us/About-APEC/Member-Economies.aspx)>, accessed 13 July 2012.

92 Gareth Evans, 'Asia Pacific Regional Security Architecture', available at: <[www.gevans.org/speeches/speech422.html](http://www.gevans.org/speeches/speech422.html)>, accessed 13 July 2012.

93 Australian Government, Department of Foreign Affairs and Trade, 'The East Asia Summit', available at: <[www.dfat.gov.au/asean/eas/index.html](http://www.dfat.gov.au/asean/eas/index.html)>, accessed 13 July 2012.

94 *ibid*.

member countries also intersect in complicated ways over the Korean Peninsula, South China Sea maritime disputes, and other border disagreements. It is likely that political brinkmanship, divergent self-interests, mistrust, legacy issues (i.e., colonialism, past conflicts), lack of political will, and ideological differences (i.e., socialism, democracy) will be constant impediments in preventing the EAS from forming into a regional security architecture let alone a regional ISR framework. It is more likely that member countries would agree to cooperate in specific areas such as counter-piracy, counterterrorism and humanitarian relief, in which there would be limited ISR engagement. Perhaps in a decade, the US could leverage the ISR relationships built around these missions to expand ISR collaboration into additional mission areas or even serve as the foundation for a future regional ISR architecture. A cooperative approach, preferably multilateral, framed within a stable institution would provide broader situational awareness, enable collaborative approaches to resolve these issues, and prevent any drastic changes to any potential multinational ISR policies and initiatives. In the meantime, US bilateral and multilateral ISR relationships with Asian allies and partners will remain critical to ensure cooperation, collective security and future stability.<sup>95</sup>

Consequently, because of the lack of a regional security architecture and an associated ISR framework, regional countries will rely mostly on their organic ISR capabilities or bilateral ISR agreements to address security concerns. In many cases these security concerns may likely exceed a country's capacity and capability because the threats are transnational in nature and will require a cooperative approach to resolve. An individual country's ability to characterise and combat these threats is also constrained because individual countries usually prefer to deal with issues on a bilateral basis; whereas, transnational threats are common to many Asia-Pacific countries and require a regional response.<sup>96</sup> As a result, each Asia-Pacific country's ISR apparatus is most likely not adequately focused to answer fundamental questions about these threats or the environments within which they operate. In addition, they have competing interests with neighbouring countries, which hinders their willingness to share and collaborate on ISR information because of longstanding distrust created by numerous border disputes, and territorial and maritime claims. As such, the region's leadership has, at best, marginal situational awareness on how these threats impact their interests.

Absent a regional ISR architecture in which it could participate, the US will need to strengthen its bilateral relationships with its allies and strong partners to increase ISR collaboration. The incentive for other countries is the ability to gain access to US-derived ISR information, collaborate on key issues using this information, and synchronise common efforts. Many of the US's allies in the region including Australia, New Zealand, Japan and South Korea have common ISR objectives, motivations and interests. These countries operate common equipment, and through contingencies and exercises have a good understanding of each other's capabilities and concepts of operation. However, the formal ISR relationships between these countries are primarily bilateral vice multilateral. Each country should seek to expand cooperation and collaboration with each other since many of their ISR requirements are likely common with each other.

By synchronising efforts, ISR gaps could be filled and prevent situations such as in April 2010 when two Japan Maritime Self-Defense Force destroyers were surprised by eight naval ships and two submarines from the Chinese People's Liberation Army Navy as they transited the Miyako Strait, exposing a gaping hole in Japan's ISR capability.<sup>97</sup> These US allies could serve as the basis to synchronise each other's ISR capabilities, not only among themselves but with other regional partners such as India and Singapore, to tackle common security issues. It will also provide the opportunity for these countries to leverage each other's research and development efforts to expand ISR capabilities and capacity in the region. Such efforts will improve the region's overall ISR capability, enhance situational awareness, and enable operations throughout the full spectrum of conflict.

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95 US Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, p. 2; and The White House, *National Security Strategy*, pp. 5–16.

96 Michael Kingsford, *Can the ASEAN Regional Forum have a Role in Maintaining Regional Security?*, Shedden Papers, Centre for Defence and Strategic Studies, Australian Defence College, Canberra, March 2012, p. 9.

97 Patrick M. Cronin and Paul S. Giarra, *Robotic Skies: Intelligence, Surveillance, Reconnaissance and the Strategic Defense of Japan*, Center for a New American Security, Washington, DC, December 2010, p. 5.

However, there are five broad and common issues the US faces when collaborating with other countries. They are:

1. differences over expectations of a security arrangement,
2. countries may seek to balance US relations with other regional and global powers,<sup>98</sup>
3. countries may be suspicious of US intentions and form their engagement through a nationalistic lens informed by public opinion and legacy issues,
4. each country's political environment will vary and may be truculent in nature, and
5. different countries will have different levels of ISR capability that may not be interoperable with US capabilities.

Differences over expectations of a security arrangement will likely be a concern for the US and a partner country. For example, the US-Philippine relationship is complex and at times truculent. The Philippines is geo-strategically located on the edge of China's claimed maritime territory in the South China Sea that threatens international freedom of navigation and in which the Philippine Government is ill equipped to defend itself.<sup>99</sup> The two countries are bound by the 1951 US-Philippines Mutual Defense Treaty, and the Philippines is a major non-NATO ally to the US. In addition, the Government of the Philippines likely views the 1954 Manila Pact as valid since former President of the Philippines, Gloria Macapagal-Arroyo, cited it in 2001 as the basis for supporting the US intervention in Afghanistan.<sup>100</sup> The US also provides military assistance and engages in exercises, and it established a Joint Special Operations Task Force in Mindanao. However, there may be differences in expectations between the two countries over the Scarborough Shoal, since the US stated it does not take sides on the competing sovereignty claims to land features in the South China Sea,<sup>101</sup> and likely does not want to be drawn into a conflict over a shoal. But there may be new opportunities to improve ISR collaboration between the two countries to support common interests. Philippine military capabilities are antiquated and focused primarily on internal defence, such as the OV-10 fixed-wing reconnaissance planes.<sup>102</sup> According to a Reuter's press report, President Benigno Aquino requested US ISR aircraft support to help patrol the South China Sea near the Philippines.<sup>103</sup> In addition, last year the US Pacific Command apparently made an initial offer to deploy the P3C Orion planes to the Philippines and help monitor disputed areas and share real-time surveillance data.<sup>104</sup> If true, the US could regain access to Clark Air Base and Subic Bay Naval Station and have greater opportunities to assist the Philippine military modernise their ISR capabilities and concepts of operations beyond internal defence. Access to Philippine bases and ports gains the US greater flexibility to manoeuvre its ISR capabilities in theatre.

Countries allied and partnered with the US may also seek to balance its relations with other regional and global powers such as China. For example, Thailand is a major non-NATO ally and oldest ally of the US in Asia

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98 Catharin Dalpino, *The United States-Thailand Alliance: Issues for a New Dialogue*, The National Bureau Of Asian Research, NBR Special Report #33, Seattle, WA, October 2011, p. 2.

99 Renato C. De Castro and Walter Lohman, 'Empowering a New Era in the United States-Philippines Security Alliance', in *Background*, The Heritage Foundation, no. 2431, 28 June 2010, pp. 1-12.

100 Dalpino, *The United States-Thailand Alliance: Issues for a New Dialogue*, p. 5.

101 US Department of State, 'Clinton, Panetta with Philippine Counterparts After Their Meeting', Remarks by Secretary of State Hillary Clinton, Secretary of Defense Leon Panetta, Philippines Foreign Secretary Albert del Rosario and Philippines Defense Secretary Voltaire Gazmin, 30 April 2012, available at: <translations.state.gov/st/english/texttrans/2012/05/201205014850.html#axzz20YzDr1tV>, accessed 14 July 2012.

102 Renato Cruz De Castro, 'The Twenty-First Century Armed Forces of the Philippines: Orphan of Counter-Insurgency or Military Geared for the Long War of the Century?', in *Contemporary Politics*, vol. 16, no. 2, June 2010, pp. 165.

103 Reuters, 'Philippines looks to US spy planes to contain Chinese aggression', in *The Telegraph*, 2 July 2012, available at: <www.telegraph.co.uk/news/worldnews/asia/china/9370286/Philippines-looks-to-US-spy-planes-to-contain-Chinese-aggression.html>, accessed 14 July 2012.

104 *ibid.*

since the signing of the US-Thailand Treaty of Amity and Cooperation in 1833.<sup>105</sup> In spite of this, the alliance may be in a 'state of drift as the security environment in Asia evolves, states in Southeast Asia increasingly integrate, China rises, and traditional Cold War threats recede'.<sup>106</sup> Thailand and other close US partners increased diplomatic relations with China signalling they prefer to balance relations among several powers than just relying on the US.<sup>107</sup> However, although it is likely the US will remain the centrepiece of the region's strategic calculation in the short term, these relationships could degrade as China's power rises in the next decade. The impact to US ISR cooperation could be negative. For example, China is strengthening its military-to-military relationships with many US partner countries in the region competing for influence and that could result in active counterintelligence efforts targeting not only US capabilities and operations but the host nation's also. The Chinese may gain indirect access to US secrets, forcing the US to protect ISR information by not collaborating as much with its partners to prevent disclosure of sensitive sources and methods.<sup>108</sup> Should this occur, the level of ISR engagement, collaboration and cooperation will be lessened, and hamper common objectives in the region.

In the past several years, China has established 'bilateral dialogues and confidence-building measures'.<sup>109</sup> Although it is doubtful these partnerships include robust ISR sharing arrangements, their efforts could evolve over the long term. Furthermore, they could influence civilian government, domestic politics, and military to counter US efforts deemed negative to China's self-interests. To illustrate, China could influence the US partners on US access to their bases using diplomatic coercion or 'chequebook' diplomacy to complicate US strategic coordination and interests. China's anti-access and area denial strategy may already be exploiting this issue. The establishment of new bases or use of bases in other countries already takes a considerable amount of time and effort, and is fraught with political obstacles especially in South-East Asia, with some expected 'behind-the-scenes work' on the part of China to thwart US efforts. China's aim could be to deteriorate and destabilise political relationships and to force or persuade US allies and partners to deny operating bases, logistical support, or clearance for ISR operations within their sovereign territory. For example, China used its relationship with ASEAN to signal its displeasure with joint exercises between the US and South-East Asian security partners.<sup>110</sup> During negotiations of the 2002 China-ASEAN Declaration on a Code of Conduct on the South China Sea, China attempted to insert language banning joint exercises with external powers not signatory to the declaration.<sup>111</sup>

Many countries may also be suspicious of US intentions and form their engagement through a nationalistic lens informed by public opinion and legacy issues. For example, 'Joint U.S.-Thailand efforts to address nontraditional security threats that do not lend themselves to military action have enabled the two countries to expand intelligence-sharing'.<sup>112</sup> Although this arrangement limits the degree of US military activities, it also provides a structure for intelligence-sharing not as easily managed in other countries of the region. Also in 1992, the Philippine Senate rejected the Philippine-U.S. Treaty of Friendship, Peace and Cooperation, which led to the withdrawal of US military forces from the country, including from Clark Air Base and Subic Bay Naval Station.<sup>113</sup> However, public opinion seems to be changing to allow greater US access to the country. As such,

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105 Dalpino, *The United States-Thailand Alliance: Issues for a New Dialogue*, pp. 2-9.

106 *ibid*, p. 2.

107 *ibid*.

108 US Air Force, Air Force Doctrine Document 2-0, *Global Integrated Intelligence, Surveillance and Reconnaissance (ISR) Operations*, p. 6.

109 Susan L. Shirk, *Chinese Views on Asia-Pacific Regional Security Cooperation*, The National Bureau of Asian Research, vol. 5, no. 5, Seattle, WA, 1994, p. 6.

110 Catharin Dalpino, *An Old Alliance for The New Century: Reinvigorating the U.S.-Thailand Alliance*, The National Bureau of Asian Research, NBR Special Report #40, Seattle, WA, June 2012, pp. 8-9.

111 *ibid*, p. 9.

112 *ibid*.

113 De Castro, 'The Twenty-First Century Armed Forces of the Philippines: Orphan of Counter-Insurgency or Military Geared for the Long War of the Century?', pp. 158 and 161.

the US will need to beware of domestic politics and how this may influence military engagement, especially ISR cooperation. The loss of access to Clark Air Base and Subic Naval Station had strategic consequences for the US.

How the US engages with a country to facilitate ISR cooperation will usually depend on the nature of a country's political environment. For example, Thailand's cyclic political instability makes dialogue between the US and Thailand difficult. Increased dialogue between the US and Thailand is required to revitalise the US-Thailand alliance. For example, after a coup in 2006 the United States suspended its security cooperation through the International Military Education and Training (IMET) program and other forms of military assistance to include exercises.<sup>114</sup> However, the US continues to have a strong security relationship with the Thais. Bilateral intelligence cooperation led to the 2003 arrest of Riduan Isamuddin (also known as Hambali), a leader of Jemaah Islamiyah,<sup>115</sup> the US military also has access to Thailand's geo-strategic military bases and ports, and the US conducts *Cobra Gold* joint exercises every year that include intelligence collaboration and training.<sup>116</sup> The proliferation of non-traditional security threats and China's rise provides the US several opportunities to strengthen relations, especially in ISR collaboration, interoperability and synchronisation with its allies and partners.

The last issue the US will face when collaborating with other countries is that different countries will have different levels of ISR capability that may not be interoperable with US capabilities. As stated previously, after over a decade of commitment in the Middle East, it is unlikely that the United States has sufficient personnel with critical regional cultural, linguistic and analytical experience to efficiently conduct ISR operations in the Asia-Pacific. The USAF can project power globally, 'but it cannot communicate in the native language of the countries where it flies and fights'.<sup>117</sup> According to the US National Intelligence Council, the CIA (Central Intelligence Agency), DIA (Defense Intelligence Agency), State/INR (Bureau of Intelligence and Research), and various other agencies identify key shortfalls in Hindu, Korean, Thai, Japanese and Chinese languages.<sup>118</sup> Substantial numbers of personnel may also need to be shifted from focusing on the Middle East to the Asia-Pacific to bolster the current force structure. However, it will take years to train them up to a high proficiency level. The USAF, for example, has recognised this deficiency and one effort it is taking to correct this shortfall is in the development of International Affairs Specialists that have language and cultural skills.<sup>119</sup> This situation could be further compounded due to a lack of integration with partner nations who could fill this gap in critical regional cultural, linguistic and analytical experience to support future ISR operations as required. There are often differences in the operating procedures of military, intelligence and law enforcement organisations within a country and between countries.

The lack of multi-domain wargaming, exercising, simulations and demonstrations with allied and partner nations further exacerbate the situation. Although Rim of the Pacific (RIMPAC) exercises provide opportunities for some ISR assets to exercise, such as P-3C aircraft from the US, Japan, Australia, Canada and South Korea,<sup>120</sup> more emphasis could be applied to synchronising ISR capabilities across all warfighting domains. Over the last decade most of these capabilities were tied up in Iraq and Afghanistan, and there have been

114 Emma Chanlett-Avery and Ben Dolven, *Thailand: Background and U.S. Relations*, CRS Report for Congress, RL32593, Congressional Research Service, Washington, DC, 5 June 2012, pp. 1, 7–8, 12 and 21.

115 Dalpino, *The United States–Thailand Alliance: Issues for a New Dialogue*, p. 9.

116 Andrew Torelli, author's personal experience as a military adviser, 2003.

117 Col John L. Conway III, USAF, Retired, 'The View from the Tower of Babel: Air Force Foreign Language Posture for Global Engagement', in *Air & Space Power Journal*, vol. XIX, no. 2, Summer 2005, available at: <[www.airpower.maxwell.af.mil/airchronicles/apj/apj05/sum05/conway.html](http://www.airpower.maxwell.af.mil/airchronicles/apj/apj05/sum05/conway.html)>, accessed 13 July 2012.

118 Ellen Laipson, 'Foreign Language Requirements in the Intelligence Community', Statement to Senate Government Affairs Committee, 14 September 2000, National Intelligence Council, available at: <[www.dni.gov/nic/testimony\\_foreignlanguage.html](http://www.dni.gov/nic/testimony_foreignlanguage.html)>, accessed 13 July 2012.

119 Conway III, 'The View from the Tower of Babel: Air Force Foreign Language Posture for Global Engagement'.

120 Commander Patrol and Reconnaissance Wing Two Public Affairs – Kaneohe Bay, HI, 'Behind the Scenes of RIMPAC: P-3C Tactical Operations', in *Hawaii Reporter*, 28 July 2010, available at: <[www.hawaiireporter.com/behind-the-scenes-of-rimpac-p-3c-tactical-operations/123](http://www.hawaiireporter.com/behind-the-scenes-of-rimpac-p-3c-tactical-operations/123)>, accessed 13 July 2012.

limited wargaming, exercising, simulations and demonstrations of the synchronisation, layering and integration of ISR, command and control, and other military capabilities in multiple reproduced combat environments.<sup>121</sup> This has limited opportunities to test interoperability and how these capabilities are envisioned to operate with each other.<sup>122</sup> For example, during *Empire Challenge 2006*, coalition forces gained valuable ISR experience on sensor analysis.<sup>123</sup> However, because of the lack of these activities with many Asia-Pacific countries, there are limited opportunities to train, educate and test tactics, techniques and procedures on the proper employment of ISR weapon systems, capabilities and concepts of operations. There may also be a lack of understanding on better ways to employ and integrate various ISR capabilities and a lack of understanding of various doctrines, strategies, plans, capabilities and performances to determine limitations and strengths between military services and countries.

It is likely that, in the absence of a regional security architecture, the best the US could accomplish is to create new and strengthen current bilateral ISR collaboration arrangements with Asia-Pacific countries. However, this may result in numerous parallel structures that may be unfeasible and unmanageable to create and maintain. In addition, the US may have to take the majority of the burden sharing. These factors combined increase the possibility that ISR information from multiple countries and sources will not be processed, collected, exploited, analysed, integrated and disseminated accurately and on a timely basis to decision-makers and other operators. It is also likely that US relationships with partner countries will be limited to intelligence sharing vice a broader ISR engagement. Intelligence is already shaped by cultural perspectives, full of ambiguity, and constantly in flux due to a dynamic environment. The lack of a broader ISR engagement exacerbates the knowledge deficit and can result in strategic surprise, slow decision-making processes and delayed reaction times, and a lack of countermeasures to a full spectrum of threats. US ISR operations that could provide more situational awareness on China's anti-access and area denial strategy will likely not be integrated into the operational plans and strategies of Asia-Pacific countries. In addition, ISR will likely not be a force multiplier as there will be a lack of joint and combined integration and interoperability. Lastly, the operational advantages and disadvantages in Asia-Pacific environments under various combat conditions will not be well understood, and the trust-deficit gap will not be narrowed.

## CONCLUSION

This paper argued that China's anti-access and area denial strategy and the lack of a regional ISR architecture are strategic security challenges facing the US over the next decade, especially if it rebalances ISR capability in the Asia-Pacific to protect its interests. China's anti-access and area denial strategy may delay, disrupt or destroy US ISR ability to project and have freedom of movement within the region under international norms. Without ISR, US forces will be blind, deaf and dumb, resulting in the inability of US forces to take offensive action to seize, retain and exploit any initiative. Advanced indications and warning and situational awareness, especially on China's intentions in the region, will help to create opportunities to influence China to accept international norms on freedom of navigation and maritime claims.

The US also faces the challenge that there is no regional ISR architecture. The lack of a cooperative approach framed within a stable institution is an obstacle to broader situational awareness and collaborative approaches to resolve common security issues. As such, the region's leadership at best has marginal situational awareness on regional security issues. However, these challenges also provide opportunities for the US, its allies and partners to strengthen and leverage each other's bilateral ISR efforts to expand ISR partnerships, capabilities and capacity in the region to improve overall situational awareness, and enable operations throughout the full spectrum of conflict.

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121 Lt Gen Dave Deptula, USAF, Retired and Col Mike Francisco, USAF, Retired, 'Air Force ISR Operations: Hunting Versus Gathering', in *Air & Space Power Journal*, vol. XXIV, no. 4, Winter 2010, pp. 13–17.

122 *ibid.*

123 Jane's, 'Imagery Intelligence – Allies simulate ISR data-sharing', p. 1.

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