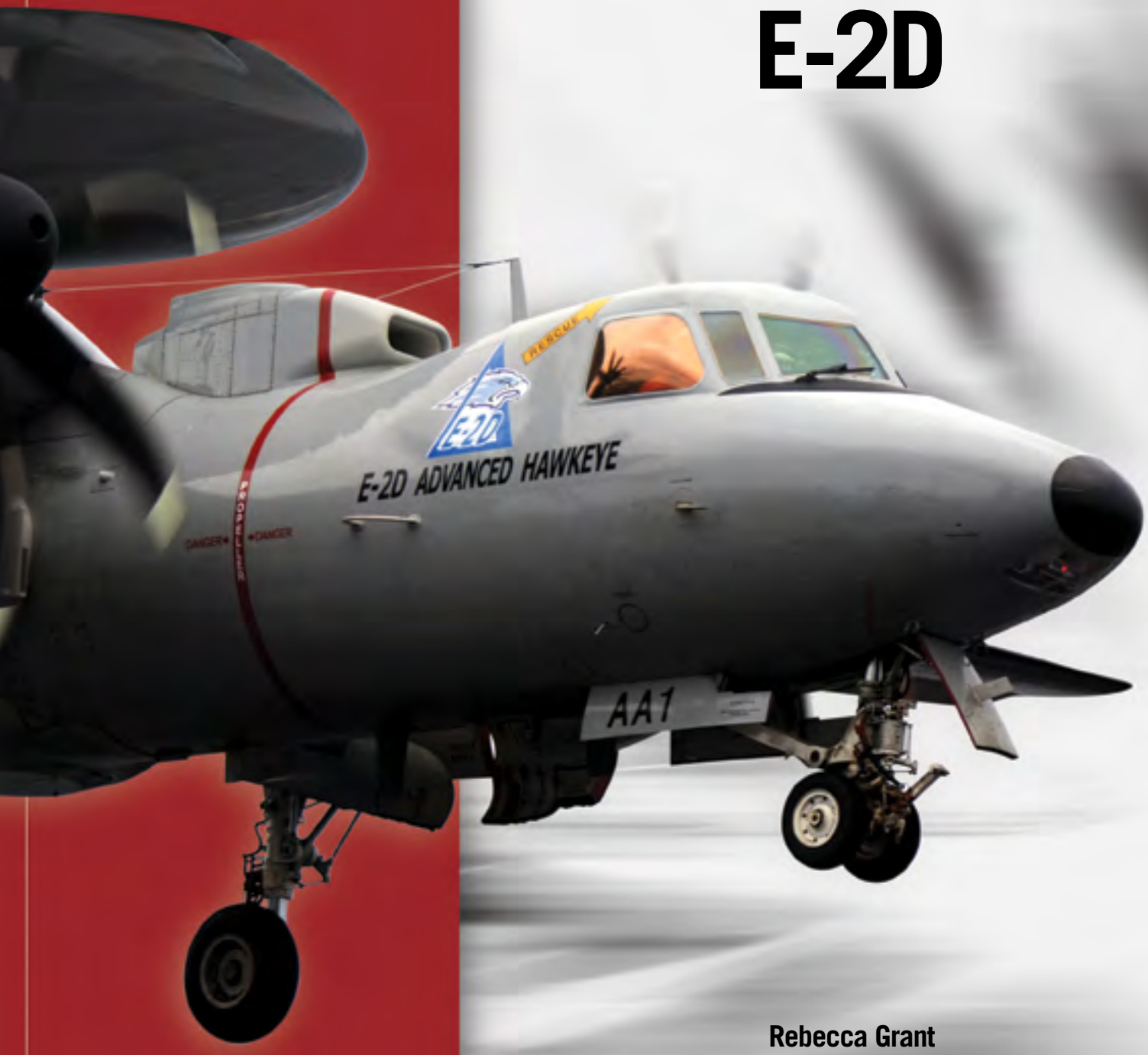
Pacific Security and the E-2D



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Introduction

The East China Sea has turned into a zone of confrontation. Almost daily, Chinese air force aircraft fly near the boundaries of international airspace, and Japan sends its own fighters to check them. Since 2010, the number of encounters with Chinese and Russian aircraft and ships has soared. Last year, Japan reported that China's navy entered Japanese waters over 50 times.

Security in the Pacific over the next decades may hinge on how nations monitor ships and aircraft and handle encounters like these in the air and at sea. No nation will confront these challenges alone. "America has no stronger ally or better friend in this region than Japan," said Secretary of Defense Chuck Hagel during an April 2014 joint press conference with Japan's Minister of Defense Itsunori Onodera.[i]

Japan is already well aware of the challenges. In April 2014, Japan's Air Self Defense Force (JASDF) stood up a new squadron of E-2C Hawkeye radar planes at Naha on Okinawa. "The squadron was newly established to firmly defend our country's territorial land, sea and air," said Onodera. The move of aircraft from their northern home base brought the unit closer to the East China Sea, where they have set up patrols to give commanders a precise view of the battlespace and offer diplomats better analysis of what is really going on in the East China Sea and elsewhere.

Emerging powers like China have developed specialized capabilities for new forces skilled in the tactics of littoral warfare. Advanced cruise missiles, combat aircraft with fast and precise long-range missiles, and more frequent appearances of unmanned aerial vehicles have all added new dangers. Enhanced maritime and air surveillance is critical to deterrence and shaping missions.

For its part, the United States Navy has quietly been enhancing its surveillance and battle management fleet. Fundamentally, the US Seventh Fleet and its Carrier Strike Group represent the first responders to any sudden use of force in Northeast Asia and constitute a vital asset in shaping and deterrence operations for Japan. For the US Navy, the centerpiece of airborne information dominance in the years ahead will be the E-2D. The first squadron of the Advanced Hawkeye will become operational at the end of 2014. Ten squadrons should be in the fleet by 2023. On station, the E-2D can extend simultaneous, continuous coverage to over 350 km for surface ships and over 555 km for aircraft and cruise missiles.

Japan has the opportunity to acquire new E-2D Advanced Hawkeye airborne early warning and surveillance aircraft. New E-2Ds represent one of the best investments possible for the JASDF at this point in time. They could be in the fleet as early as 2018 since the US Navy is buying several E-2Ds per year from a full-rate production line. JASDF aircrews could transition from E-2C to E-2D with minimal downtime for training. The quickest way to add advanced surveillance and communications links for operations around Japan is via the E-2D. Yet this, as with any military aircraft, is a significant purchase. Are tensions in the East China Sea – and trends in air-sea battle – really at the point where they justify new E-2Ds?

Japan's Security Environment

Japan has long stood as a powerful but quiet presence in the Pacific, taking its place as a leading world economy while focusing its military forces only on self-defense. But over the last five years, the security situation surrounding Japan has changed enormously. Disputed islands and increased military activity by Chinese and Russian forces have led to frequent encounters between military forces exercising in the region.

Japan's policy has changed, too. "Since becoming Prime Minister, I have made clear to the Japanese people that my government will develop and carry out a proactive foreign policy, and that Japan should play a meaningful role on the global stage," Prime Minister Shinzo Abe said in May 2014 at a meeting of NATO's North Atlantic Council.

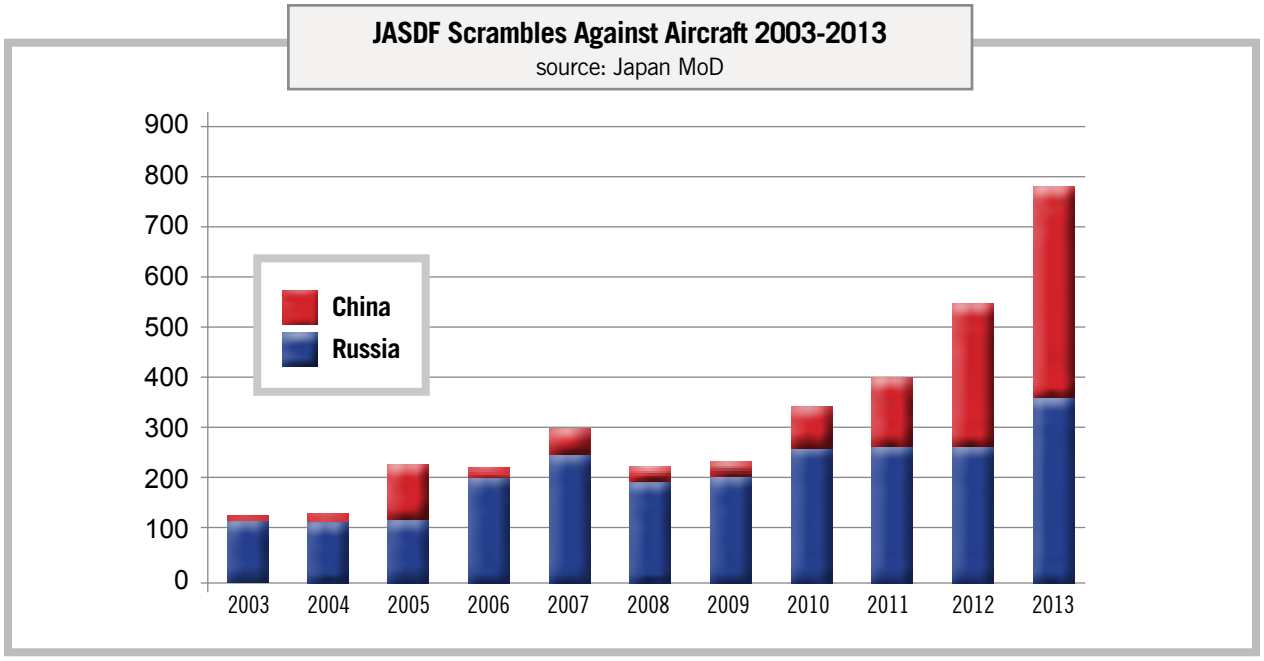
The *Defense of Japan* strategy released in late 2013 announced a major new policy direction. "Japan's security environment is encompassed by various issues and destabilizing factors, some of which are becoming increasingly tangible, acute and serious," the paper stated. Japan's goal is to build a dynamic joint defense force to cope with security situations over the next decades. Intrusions into Japan's waters and airspace have also forced Japan to re-evaluate its National Defense Program Guidelines. Japan is now facing what its officials describe as a "grey zone" security environment reacting to moves by North Korea, Russia and of course, China.

North Korea heads the list of provocateurs. In March 2014, North Korea fired two medium-range missiles that flew 403 miles and landed in the Sea of Japan. North Korea shelled South Korea a few days later, adding to tensions on the peninsula.

The isolated nation has indulged in military demonstrations since Kim Jong Un assumed power in late 2011. A North Korean rocket launched a small satellite into orbit in December 2012 in what was widely seen as part of an intercontinental ballistic missile development effort. A nuclear test in December 2013 was the third such detonation since 2006. All were condemned by the international community. While the rest of the world is concerned with North Korea's attempts to develop longer range missiles, the threat to Japan and South Korea is more immediate.

Russia has also stepped up its military activities in the Pacific. For example, Japan intercepted four Russian aircraft on April 14, 2014.[ii] Japan's defense Minister Itsunori Onodera commented on Russian military activity during a briefing in Tokyo the next day. "I am aware that Russian aircraft have been flying very frequently over the Japan Sea and the Pacific in the past few days. In general, there are more Russian flights, training and exercises near our country," Onodera stated. In 2003, JASDF aircraft scrambled 124 times against Russian aircraft in the vicinity. The number increased mid-decade and reached 248 in 2012.

China has overshadowed all others in the region with its pace of military activity. Both at sea and in the air, China's military forces have greatly increased their training maneuvers near Japan. A typical example was a flight of 12 PLA Air Force (PLAAF) aircraft around Okinawa in July 2013.



However, it is the overall trend depicted in the chart that is truly astonishing. Japan scrambled aircraft on account of activity by the PLA Air Force 38 times in the year 2009 and 96 times in 2010. In 2013, 415 scrambles occurred.[iii] The increase of 400% in just a four-year period symbolized how quickly a battlespace environment could change.

Incidents in September 2013 illustrated why the Chinese flights create such an alarming "grey zone" for Japan. On September 8, two PLAAF H-6 bombers took off from China and flew a

diagonal course splitting between Miyokojima and Okinawa. Japan's Ministry of Defense took the unusual step of releasing the flight track of the bombers. Although the H-6s are based on an old Russian Tu-16 Badger, they have been extensively updated. More important, the H-6s can carry air-launched cruise missiles with ranges of several hundred miles fitted for attack against ships at sea or fixed points on land. Cruise missiles are stealthy by nature and capable of devious flight paths, making them notoriously hard to track. H-6 bombers on the loose could launch missiles against a wide range of targets and locations.

The bombers in this case followed a corridor used by Chinese naval forces transiting toward exercise areas in the Pacific. They stayed in international airspace and China called the flights routine. However, maritime specialists saw it differently. "This high level of deployment is telling the Japanese that the Chinese are willing and able to comprehensively cover the Senkaku Islands with various forms of surveillance, potentially backed up by military aircraft," explained one scholar.[iv] A day later, Japanese fighters scrambled after sightings of a PLA reconnaissance drone near the Senkaku islands.

The September 2013 incident also included ships maneuvering in the area. Jun Osawa of the Brookings Institution observed that since 2010, the Chinese navy has repeatedly sailed through the Miyako Strait to conduct exercises in the western Pacific Ocean. As the gateway to the Miyako Strait, the Senkaku Islands are emerging as a key strategic point that could play a decisive role in the A2/AD strategy.[v]

Exercises are normal for developing militaries and Japan, the US and many other regional actors engage in them too. What's different now is that "the observable trend in Northeast Asia is towards holding larger drills with greater frequency and more modern surface ships," concluded another scholar of the region. "Beyond the political signals that are sent, they also underscore accelerating efforts by competitors to bolster war preparedness," he added.

Defense of Japan spoke directly to the destabilizing uncertainty surrounding China's maritime operations. "Coupled with the lack of transparency in its military and security affairs, these moves by China are a matter of concern for Japan and other countries in the region…. Therefore Japan needs to pay utmost attention to China's movements."[vii]

Former Australian Prime Minister Kevin Rudd and American professor Joseph Nye of Harvard University together have observed the East China Sea for decades. "The real dangers are not in the intentions of the countries' leaders but in the potential for miscalculation at lower levels, limited experience in 'incident management' and escalation in a climate of competitive nationalism," they wrote in April 2014.[viii]

Maintaining the balance of power will depend on continuous surveillance and crystalline knowledge of how friendly and foreign forces are operating in the air and at sea. When tensions run high, the first essential is clear identification and tracking of military forces and their tactical intentions.

E-2D and the Airborne Battle Network

Given all this, Japan is also planning to buy more surveillance planes to extend the range of its tracking for both aircraft and ships and cover more difficult targets like cruise missiles.

For Japan, the new surveillance plane should meet three criteria: improve the radar coverage; link into US capabilities, especially for building a common operational picture; and be available fast. That points directly to the plane the US Navy is now buying: the E-2D Advanced Hawkeye.

The US Navy designed the E-2D for longer detection ranges, greater radar coverage and to work as a highly sophisticated airborne battle manager. The E-2D is a major program investment for the US Navy. Twelve E-2Ds have already been delivered and the program of record calls for 75 E-2Ds to join the fleet by 2022.

One useful way to consider Japan's potential use of the E-2D is to analyze what the US Navy expects from its new E-2Ds. The main tasks are to increase the airborne surveillance range of air and sea targets, extend the integrated fire control network for counter-air operations, and function as the primary node for future advanced data networks linking sensors and shooters.

Increasing Surveillance Range. At the heart of the E-2D is its new APY-9, a UHF-band electronic scanning array radar. This radar was designed specifically for greater range and volume of coverage. Naval Air Systems command referred to the E-2D as a "two-generation leap in capability and upgraded aircraft systems."[ix] According to the Navy:

> The centerpiece of the E-2D is the APY-9 radar system. This radar system is designed specifically to provide significantly enhanced surveillance, detection and tracking capability against advanced threat aircraft and cruise missile systems in the overland, littoral, and open ocean environments. Maritime surveillance is also maintained in the open ocean scenarios.[x]

The APY-9 increases the range for the E-2D by about 40% over the range of the E-2C. Calculated for volume, the area scanned is nearly double for the E-2D. Wider scan coverage makes the E-2D much more capable in tracking both air and surface targets simultaneously. The E-2D radar also utilizes a longer wavelength UHF-band mode, which improves its detection of small targets like cruise missiles, unmanned air vehicles and combat aircraft with stealth treatments or features. Structural features in the E-2D design allow the radar to perform to its full potential without interference from the tail section, etc.

The US Navy has praised the performance of the E-2D radar from the beginning. "The AN/APY-9 radar is performing very well and will bring to the fleet a significantly increased ability to operate in a highly cluttered environment while providing critical 360-degree coverage," said Hawkeye program manager US Navy Captain Shane Gahagan back in 2009.[xi]

Of course, initial detection is not the only piece of the puzzle. The radar employs a technique known as Space-Time Adaptive Processing (STAP) to sort through clutter coming from land masses and the littoral environment.

The STAP method used by the E-2D radar processes the radar return data, and drives down the clutter "noise" coming from the ground or from jamming via analytic techniques. To

the E-2D radar, the small target is now discernible. The radar adapts automatically to extract data from the return and clarify the battlespace.

Sophisticated tracking is only part of the job. The E-2D collects its own track data and assembles data from other ships and aircraft to form a common operational picture of friendly, adversary and unknown contacts in the area. With a common operational picture, the E-2D can function as a central hub of a network for distributing track and targeting data among numerous platforms. An efficient network requires both a larger data pipe and an airborne battle manager. For example, the E-2D could identify a target then hand it off to the F/A-18EF to engage.[xii]

E-2D and Naval Integrated Fires Control for Counter-Air. Countering threats in the air-sea battle environment depends on networking forces together over wide distances to establish air, sea and information dominance. The faster adversary targets appear, the more crucial it is for a battle network to confirm and hand off tracking data. Having a network in place can also compensate when adversaries attempt electronic warfare jamming.

The Navy already has Cooperative Engagement Capability or CEC as a response to increasingly sophisticated cruise missile and aircraft threats. With CEC, ships equipped with the Aegis radar system share a common operating picture including radar and other sensor scans and information on contacts and targets in the area. The data quality is good enough for one ship to feed tracking data into the network while another ship picks up the target track and then fires. CEC was designed to enhance the Anti-Air Warfare (AAW) capability of ships and aircraft by the netting of battle force sensors by establishing a single, distributed AAW defense capability.[xiii] E-2D will function as the central airborne node of NIFC-CA and build an IP-based network of linked ships and aircraft.

The E-2D will supply the counter-air piece of the network. As described by the Chief of Naval Operations Admiral Jonathan Greenert, NIFC-CA is a network that will integrate aircraft and ship sensor and weapons capabilities. "Fielding begins with the E-2D *Advanced Hawkeye* aircraft in 2015 and fully equips six CVW by 2020. Full transition to the E-2D will be complete by 2022," Greenert testified to Congress in September 2013.

E-2D as Battle Manager.

When deployed, the E-2D can help form data networks to improve the flow of sensor, targeting and command and control information. For example, the E-2D can field the large data pipe of the Tactical Targeting Network. TTNT was tested in joint experiments in 2008. New to the Navy, it is being developed as an ad hoc internet protocol (IP) network allowing ships and aircraft to enter the network at will. The E-2D's role is critical to using TTNT to share the battlespace picture. Each platform is identified by its unique address, which enables efficient routing of communications and data. The network can then be optimized by current users to share and combine their identification and track data.

The US Navy plans to use two E-2Ds per Carrier Air Wing as battle managers. According to N98, the Navy's Pentagon directorate for air warfare, the E-2D datalinks are key to establishing NIFC-CA. Combine TTNT with the Navy multifunctional information distribution system joint

tactical radio system (MIDS-JTRS) radios and "you're able to move that data back and forth... Now I can bring that whole integrated architecture to the fight," explained Rear Admiral Michael C. Manazir, Director, Air Warfare N98, in December 2013.[xiv]

The E-2D will also be a conduit for adding new systems to the operational picture. The reach of the F-35's active electronically scanned radar and other sensors can be passed back to the E-2D and on to operators and commanders. "What's in the F-35C can give us a weapons-quality track that we can push back to the E-2D," Manazir added.[xv] The E-2D paired with Aegis-radar ships will create a formidable data capacity.

Linked E-2Ds can also make the whole network of platforms more resilient to jamming and other forms of electro-magnetic hostility. Manazir described the benefit of dispersing sensor platforms but keeping them linked. "When we widely disperse sensors, like two E-2s…you can't jam all of that," Manazir said. "If one guy is getting jammed real hard, the other system over here can see . . . we not only home in on the jamming, but we can see where the energy is coming from and then we can actually target whatever it is."[xvi]

All these tactical abilities will be useful in the rapidly changing battlespace. Technology trends indicate that the near-future battlespace could feature numbers of ballistic and cruise missiles along with adversary aircraft, UAVs and ships.

Advanced air-to-air and cruise missiles will make the battlespace much bigger as well as more lethal. China has deployed several advanced missiles since the early 2000s. For example, the PL-12 with a range of 70 km is reported to be comparable to Russia's R-77 missile or the American AMRAAM. Experts following Chinese military technology cite possible development of a "PL-13" missile thought to employ ramjet technology. Such a missile could have a range over 160 km (as did an extended-range Russian R-77) and speeds near Mach 4. The arrival of missiles with even some of that capacity would again stretch the boundaries for networked counter-air battle management. In this environment, the full range and detection abilities of the E-2D would be invaluable.[xvii]

E-2D Links to Japan's Aegis Guided Missile Destroyers. E-2Ds can make Japan's navy much more effective in counter-air and sea-based missile defense missions. China's navy is larger than the JMSDF and has greatly increased its activity in the waters near Japan. PLA navy ships encroached on Japanese waters 52 times in 2013, according to Japan's Ministry of Defense. The specific incidents included transit through narrow channels and even a case of a PLA navy ship turning its radar on a JMSDF destroyer.

"Tokyo is in the early stages of redeploying its forces to the west to counter the sharply increased tempo of Chinese naval operations," noted one observer.[xviii] Redeployment of forces and upgraded capabilities are essential. Japan's navy is upgrading its already-formidable guided missile destroyers to make full use of the Standard Missile II Block 2A.

For Japan, the E-2D could be extremely valuable in controlling this "grey zone" at sea. The Link 16 communications can directly convey enhanced range search information from the E-2D to JMSDF ships such as the *Atago* and *Kongo*–class guided missile destroyers.

Japan has continued to expand its sea-based capabilities. For example, in December 2007, the *JDS Kongo* acquired, tracked and launched a missile intercepting a test target fired from the Pacific Missile Range in Hawaii. The test missile was at an altitude of 100 miles when hit by the *JDS Kongo's* interceptor. The test demonstrated that JMSDF ships could defend against ballistic missile threats.[xix]

Japan is rightly concerned that grey zone situations "tend to linger" and can "evolve into more serious situations," as a recent briefing from the Ministry of Defense phrased it. Frequent near-encounters raise the stakes. What military commanders and policymakers need is clarity on movement of all forces in the region.

Surveillance will provide the dominant edge in sea battle today and in the far more lethal environment of the 2020s and beyond. The naval battles between Great Britain and Argentina in the 1982 Falklands war provided a reminder of what happens to forces under attack from the air, sea and subsurface when they don't have dedicated airborne early warning surveillance. For example, two Argentinian Super Etendard fighters flying at low altitude hit the British ship *HMS Sheffield* with an Exocet missile. The missile itself skimmed at 8 feet above the water. *HMS Sheffield's* radar did not detect the attack planes or the incoming Exocet in time to take action. The Exocet missile blew a hole in the hull and started a fire, and the ship was eventually scuttled.

Tracking and identifying even the relatively low number of contacts proved challenging. For example, the British lost two Sea Harriers, which flew into the sea in pursuit of a low-flying radar contact.[xx] Thirty years on, the air-sea threat environment is far more lethal.

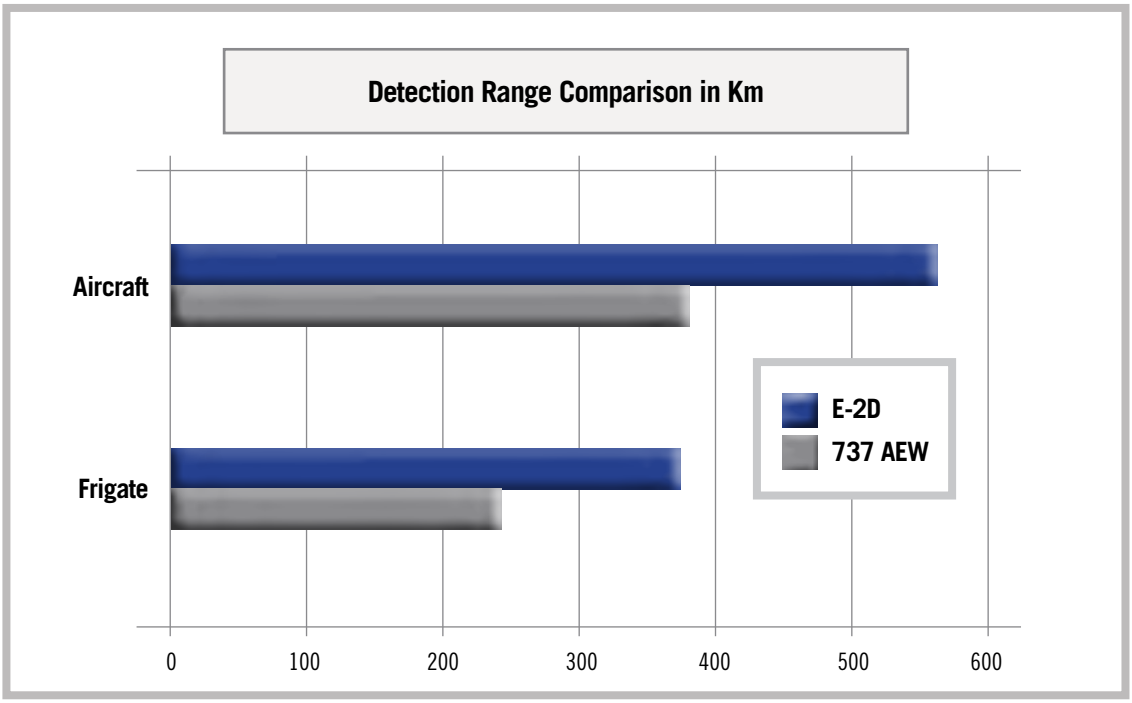
Another overlooked lesson from the Falklands war is the vulnerability of amphibious landing operations. Five more British ships were sunk by air attack during the amphibious operations phase of the brief war as British troops landed on the Falkland Islands. Argentina lost a cruiser to submarine attack forcing the fleet back into port.

The evolution of the air sea battlespace and the emerging US Navy concepts all underscore the increased role of maritime surveillance and airborne battle management by the E-2D in meeting current and near-future security challenges.

Evaluating Future Airborne Surveillance

Japan's current fleet is centered on thirteen E-2Cs in the Hawkeye 2000 configuration. Japan also flies four Airborne Early Warning 767s. While the 767s assist with the overall air defense mission, it is the E-2Cs which contribute the primary tactical flexibility to the force.

Could a widebody platform be a choice for Japan? Australia and South Korea both operate versions of a 737-based airborne early warning aircraft. Australia's is nicknamed the Wedgetail. The Wedgetail is a good platform for Australia, where distances demand long on-station times, endurance and crew comfort. And there's no doubt the 737 widebody airframe is comfortable.



But development has not always been smooth. According to the Australian government, the Wedgetail project was approved in 2000 with a budget of $3.45 billion to procure six 737-700 commercial aircraft which were then fitted with an advanced multi-role electronically scanned radar and 10 mission crew consoles.[xxi] Along the way, the aircraft experienced maturation problems throughout the 2000s stemming in part from its "tophat" stationary radar design mounted above the fuselage. RAAF Wedgetails reached limited initial operating capability only in late 2012, marking almost a dozen years from program approval through IOC.

Radar coverage by the 737 AEW platform is markedly different from the E-2D. The "tophat" is a multi-role electronically scanned array (MESA) radar originally developed in the 1990s. The L-band radar was built mainly for tracking the air battle and is less well-suited for the missions of sea-based tracking. Most important is the radar coverage range. The Wedgetail radar can detect aircraft out to 370 km and ships the size of a frigate at 240 km. In contrast, the E-2D coverage is greater with aircraft detection at 555 km and frigate-size ships seen at 350km.[xxii]

Also there's no avoiding the fact that the 737s are commercial aircraft with large tails and wings and a radar added on. The aircraft, radar and mission systems are priced accordingly. Comfort comes at a cost. In contrast, the E-2D airframe is built to accommodate the radar so that structural features do not block out radar functions at crucial moments. Beyond this, the 737 AEW fleet is small, leaving operators are "on their own" to bear the cost and technical burden of upgrades to the system, be they for increased operational capability or improved life cycle sustainment. No aircraft of this type are in service with the US.

Tactical Considerations. The rising number of air-to-air encounters and naval activity has made clear that Japan needs additional surveillance capability promptly. This section considers some of the tactical requirements for mission profiles, interoperability, endurance, and transitioning to the E-2D.

Tactical Optimization. Strong tactical performance characteristics necessary for the eyes-of-the-fleet environment were designed into the E-2D. For example, radar coverage begins shortly after wheels are in the well. This allows the crew to build the battlespace picture right away on even a short transit to patrol stations.

The 360-degree, continuous scan operations unique to the E-2D radar also permit more tactical flexibility during patrol missions. For instance, the E-2D can shift its flight route yet still maintain backward-looking radar coverage as it repositions.

The design for the crew of five permits tight coordination in a combat setting. For example, the tactical fourth operator display was designed to add to the E-2D's battle management

capabilities. In the E-2D, the co-pilot has the option to switch the glass cockpit display from flying duties to assist with tactical operations.

The E-2D was *not* built with luxury seating for the crew. The Advanced Hawkeye was designed for highly-trained crews who are executing tactical surveillance missions under extreme, combat missions. It wasn't built for "comfort" anymore than the F-15 was.

Crew comfort has never been an issue in the operational community. Far more important is that the E-2C crews have earned a reputation for tactical innovation. E-2C crews pioneered links to special operations forces on the ground in the early days of the Afghanistan war. During Operation Tomodachi, they assisted with deconflicting relief flight efforts. E-2Cs provided assistance again did so again after Typhoon Haiyan hit the Philippines. "Our aircrews have proven time and again the flexibility of the E-2C airframe to flex and find new missions," said US Navy Captain Todd Watkins, Commander, Airborne Command Control and Logistics Wing.[xxiii]

Interoperability. The participation of the US Navy E-2D at Red Flag also symbolizes how the E-2D is an integral part of the tactical concepts for air warfare. Interoperability between U.S. Air Force, Navy and allied platforms is a must for the air-sea battle environment. As a major node, E-2D will continue to receive planned upgrades. Pacing the threat with planned updates and improvements will be essential over the service life of the E-2D. Both the size of the US Navy E-2D fleet and the integration in joint exercises will keep open a strong pipeline of interoperability that will cope with both emerging threats and opportunities over the decades.

Endurance. Production E-2Ds, unlike their E-2C predecessors, will be capable of in-flight refueling from tankers. Japan and other foreign military partners have the option to install fuel tanks in the main wings for a "wet outer wing panel" configuration. The extra fuel could extend the mission flight time to as long as 8-12 hours.[xxiv] However, the E-2D is also economical on fuel. For wargaming scenarios where bases and logistics are under attack, lower fuel consumption translates to more missions flown.

Life Cycle Costs. With 75 aircraft anticipated for the US Navy, export customers would "be joining an already large resource pool. Development costs for future upgrades would also be amortized across a large fleet," as industry observers have noted.[xxv] The twelve E-2Ds already delivered have racked up more than 5000 hours of flight time. So far, the E-2Ds have turned out to be twice as reliable – extending the time between maintenance intervals – than the E-2Cs, just what's expected in a new aircraft.

From E-2C to E-2D. Adding E-2Ds to the fleet provides a unique opportunity for Japan to take advantage of longstanding investments in the E-2C fleet. Misawa Air Base in northern Honshu has been home to E-2Cs since the early 1980s. Japan acquired its first eight E-2Cs from 1982 to 1985. Another five were purchased in 1993. Upgrades to the Hawkeye 2000 configuration began

in 2004. All of Japan's thirteen-aircraft E-2C fleet are now at the Hawkeye 2000 configuration. Japan can already tap the community of E-2C users for spare parts. This will continue as the US Navy procures spares along with acquisition of the E-2D fleet. Over time, access to sustaining engineering support will also be valuable.

One of the biggest factors in adding new aircraft is the time allotted to train aircrew and ground maintainers. Based on recent experience, JASDF aircrews would need perhaps as little as four months of additional training instead of the year or more often necessary to adopt an entirely new aircraft.

Conclusion

A final consideration is the status of the U.S. Navy E-2D program. The Navy E-2D program has passed major program evaluation and test milestones. The E-2D has performed well on another key measure: software. Official DoD reports certified that there were no issues with E-2D software integration – a major consideration for the stability of production programs and sustainment. In short, the E-2D program is on very solid footing.

After reaching Initial Operating Capability in late 2014, the Navy will increase production of E-2D up to as many as eight aircraft per year after 2016. The advantages of the current production line are hard to overstate. The line is mature enough for the Navy to procure E-2Ds under a multi-year contract. This means the E-2D has passed the toughest operational test and verification – and so has the program's overall cost structure. If Japan places an E-2D order, it will gain the most efficient production aircraft at least cost.

Stabilizing the East China Sea and wider Asia-Pacific region has become a premier security task. The US and other allies have made clear their commitment to enhancing stability. "We oppose any unilateral attempts to undermine Japan's administration of these islands," President Obama told the Japanese press during an April 2014 trip to Tokyo.

But the situation also calls for steady vigilance. In a world where several major powers have advanced technology and information platforms, the ability to exploit and manage battlespace information counts more than ever.

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